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Final Environmental Impact Statement for Blount County, Tennessee Wastewater Facilities

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Atlanta, GA. Region IV

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July 1983

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Environmental Impact Statement

Final

Blount County, Tennessee Wastewater Facilities

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SPRINGFIELD, VA. 22161

FINAL
ENVIRONMENTAL IMPACT STATEMENT
For
BLOUNT COUNTY, TENNESSEE

Prepared by
U.S. Environmental Protection Agnecy
Region IV
Atlanta, Georgia 30365

This Final EIS addresses proposed wastewater facilities for Blount County, Tennessee. Six wastewater management alternatives have been evaluated with particular attention to water quality in the area's surface and groundwater resources and the impacts of projected population growth on the natural and human resources of the Blount County area.

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Regional Administrator

June 21, 1983
Date

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Executive Summary

EXECUTIVE SUMMARY FOR THE ENVIRONMENTAL IMPACT STATEMENT

BLOUNT COUNTY, TENNESSEE WASTEWATER FACILITIES

Draft ( )
Final (X)

Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

Type of Action: Administrative Action (X)
Legislative Summary ( )

EXECUTIVE SUMMARY

PART A - SUMMARY OF THE ALTERNATIVES CONSIDERED

This Environmental Impact Statement (EIS) addresses alternative wastewater management facilities for Blount County, Tennessee and the potential impacts of these facilities. The study area for the EIS includes the northern half of Blount County with the exclusion of the cities of Maryville and Alcoa as shown on Figure 1.

Population and wastewater flows for this area were projected and then feasible alternatives were developed by combining wastewater service configurations and treatment and disposal techniques. Following is a description of each of the final wastewater management alternatives which were evaluated in the EIS. Maps depicting the configurations of these alternatives are presented in Chapter III of this EIS on Figures III-2 through III-5.

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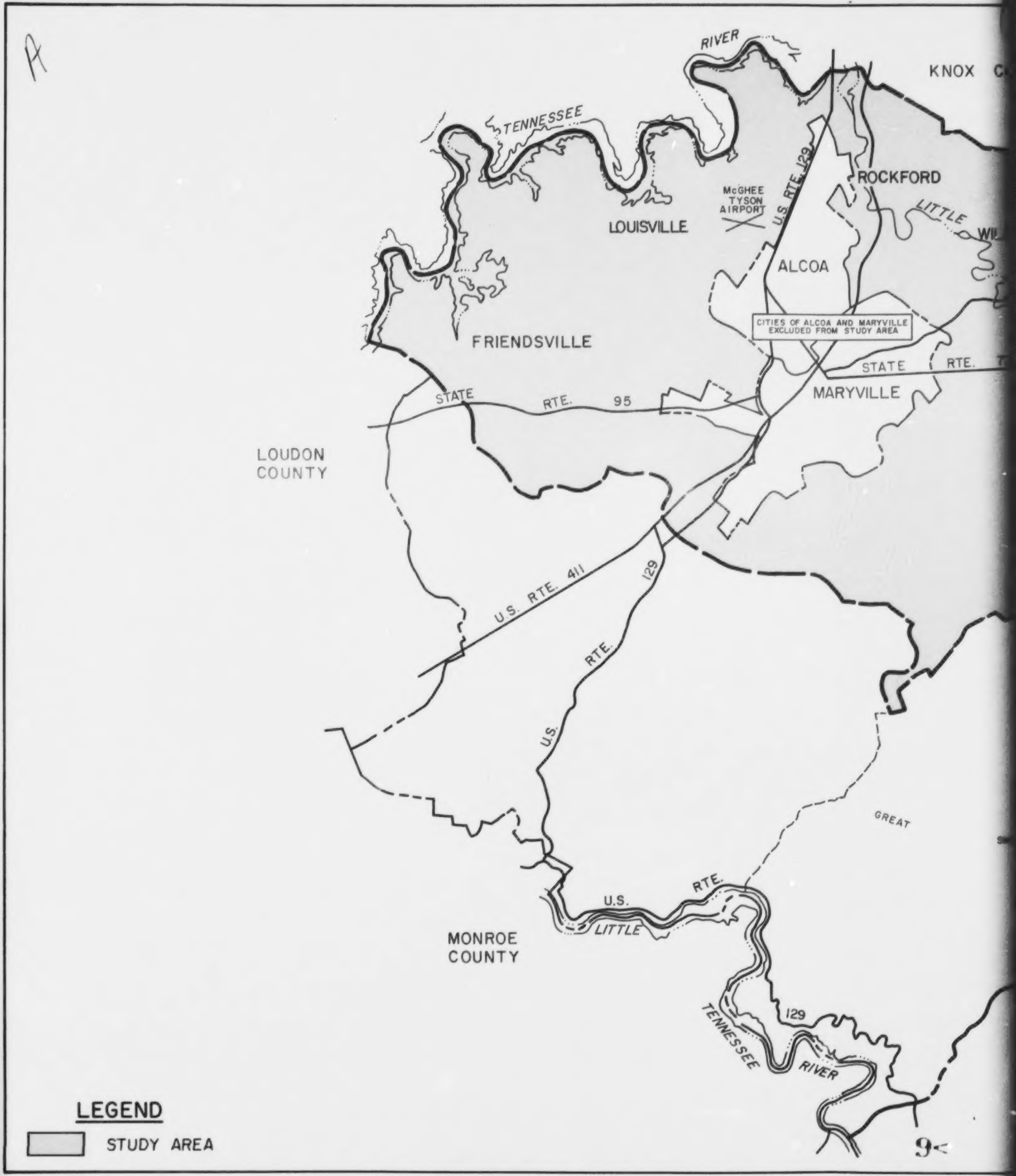
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ALCOA
FRIENDSVILLE
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STATE RTE.
MARYVILLE
STATE RTE. 95
LOUDON COUNTY
U.S. RTE. 411
129
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LITTLE
MONROE COUNTY
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TENNESSEE
RIVER
LEGEND
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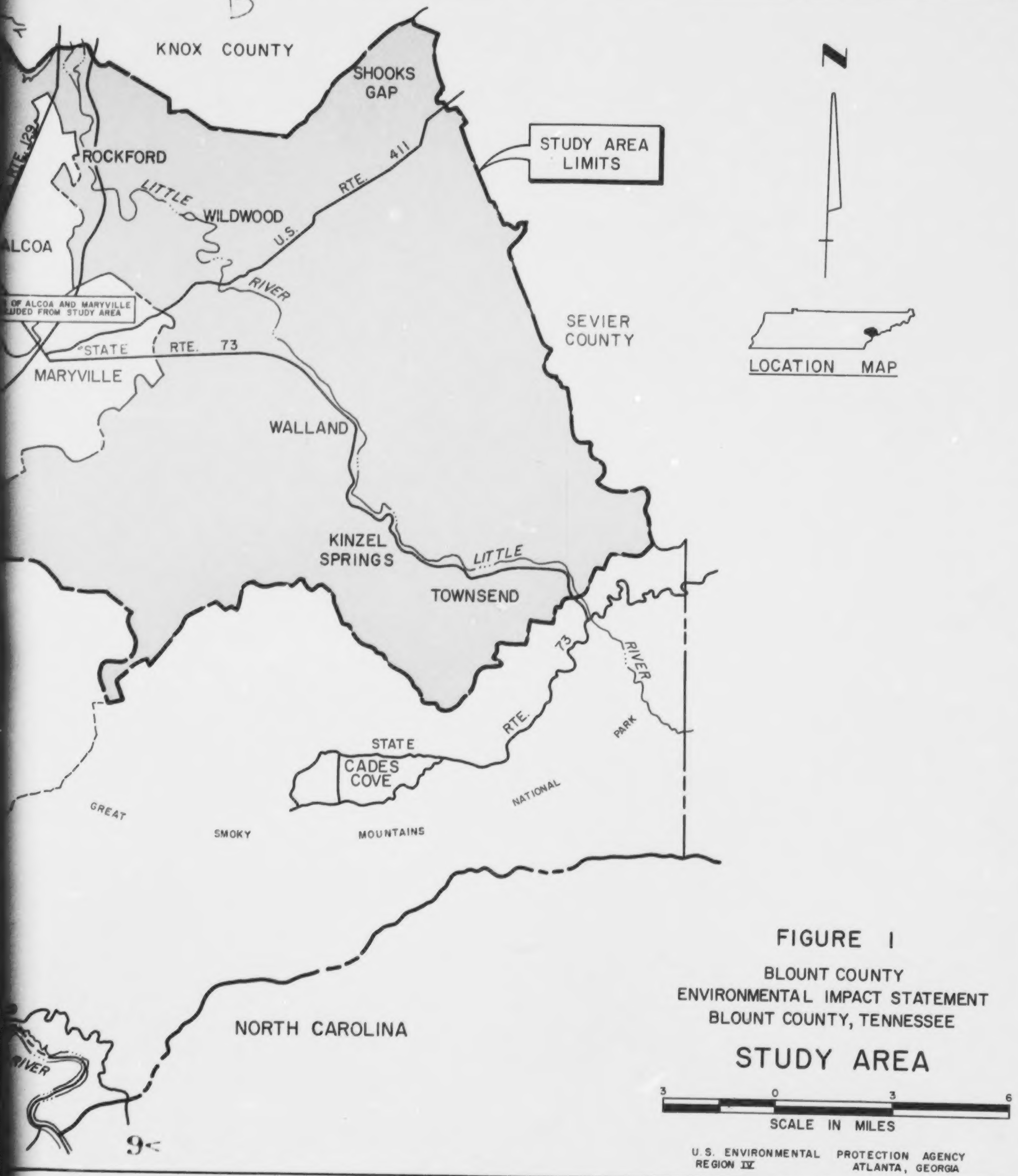
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MOUNTAINS
NORTH CAROLINA
RIVER
3
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SCALE IN MILES

FIGURE 1

BLOUNT COUNTY
ENVIRONMENTAL IMPACT STATEMENT
BLOUNT COUNTY, TENNESSEE

STUDY AREA

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV
ATLANTA, GEORGIA

Alternative 1, The No Federal Action Alternative

This alternative assumes that EPA grant funds are not available to Blount County and that future wastewater management facilities are developed with local funding. In the heavily developed areas adjacent to Maryville and Alcoa, it is likely that sewers would be gradually extended from the existing system where soil conditions or population densities dictate. A small community system is projected for Townsend. In the remainder of the County, treatment and disposal of wastewater are projected to be handled by on-lot systems or locally funded small treatment plants.

Alternative 2, The On-lot Systems Alternative

This alternative is comprised of two components. First is the EPA-funded renovation of existing on-lot systems in the study area which are presently malfunctioning or failing. Based on the study of on-lot failures by EPA, this is estimated to be about 15% of all present systems. These renovations are fundable by EPA only if an on-lot wastewater management agency is set up at the local level. This agency would be responsible for assuring the proper installation, operation and maintenance of on-lot systems in Blount County. The second component is the non-federally funded development of on-lot systems to accommodate the wastewater needs of new development in all parts of the study area. The cost for this alternative also includes a small community system in the Townsend area which may be necessary during the planning period. Other small community systems may be funded locally to serve desired development.

Alternative 3, Small Community Systems Alternative

This alternative would consist of 35 individual small community systems funded by EPA. A variety of options for collection, treatment and disposal were considered including gravity sewers, pressure sewers, vacuum sewers, extended aeration, extended aeration plus filtration, surface discharge and land application. For costing purposes, the least expensive combination of options was selected--small diameter gravity sewers, extended aeration treatment plus filtration and disposal of effluent to surface water. In other parts of the study area not served by small community systems locally funded on-lot systems would be used for treatment and disposal of wastewater.

Alternative 4, Suburban Maryville-Alcoa Interceptor Alternative

This alternative would include EPA-funded interceptor sewers to the areas north and west of Alcoa and southwest of Maryville. The cost for this alternative also includes a small community system in the Townsend area which may be necessary during the planning period. The remaining areas proposed for sewer extensions under no federal action would be locally funded as would on-lot systems in the rest of the study area.

Alternative 5, Limited 201 Alternative

This alternative would provide EPA-funded interceptors to extensive service areas throughout the study area in conformance with the population projections used in this EIS. The remaining portions of the study area would be served by on-lot systems not supported by EPA funds.

Alternative 6, Full 201 Alternative

This alternative would provide EPA-funded interceptors to extensive service areas throughout the study area in conformance with the population projections used in the Blount County 201 Plan. The remaining portions of the study area would be served by on-lot systems not supported by EPA funds.

PART B - EVALUATION OF ALTERNATIVES

The alternatives described in Part A were evaluated in terms of cost, operability, implementability and environmental impact. The evaluation of the alternatives with respect to these categories is summarized in Table 1.

TABLE 1

ALTERNATIVES EVALUATION SUMMARY

Alternative	Present Worth Cost (in millions)	Environmental Impacts	Implementability	Operability
1. No Federal Action	$ 8.2	1. Supports land use plan and supports centralized growth. 2. Centralized growth could minimize overall conversion of prime farmland. 3. Would cause a small increase in wasteloads to the Tennessee River. 4. Continued occasional septic tank problems such as surfacing and odors.	1. No local agency is staffed or equipped to undertake extensive sewer expansions in the county. 2. Sewer extensions would only be made where developers or homeowners can pay for them.	1. Operation of a Townsend package plant, if constructed would be very important requiring new operators and treatment engineers. 2. Maintenance of existing on-lot systems would not be improved. 3. Operating requirements of on-lot systems are minimal.
2. On-Lot Systems	13.0	1. Improvement in adverse impacts from failing septic systems. 2. Some areas near Maryville and Alcoa may have lower density than that forecast in the land use plan. Extension of collector lines where appropriate using other funds would mitigate this problem. 3. No new surface water discharges would be created.	1. Management agency concept likely to be controversial. 2. Elevated sand mounds not familiar within the study area. 3. Innovative and alternative classification makes this alternative more likely to receive federal funds than the other alternatives.	1. Operation of the Townsend package plant would be very important requiring new operators and treatment engineers. 2. Management agency will improve reliability and efficiency of on-lot systems. 3. Elevated mounds have greater O&M requirements and should be designed and installed by experiences personnel.

TABLE 1
(Continued)

Alternative	Present Worth Cost (in millions)	Environmental Impacts	Implementability	Operability
3. Small Community Systems	$24.4	1. Encourages clustered development; Supports land use plan. 2. Proliferation of surface discharges would affect water quality, aquatic resources, recreation and, perhaps public health. 3. Impacts to Little River would be greatest if surface discharge option were selected. 4. Land application in Karst areas could impact groundwater.	1. Lack of existing water quality or public health problems makes project rank low on state priority list and severely limits chances for EPA funding. 2. State approval needed for 35 different disposal sites or discharge points. State policy has discouraged discharge to Little River. 3. User costs would be very high. 4. No existing local agencies are staffed or equipped to assume responsibility for O&M of 35 treatment plants.	1. It is doubtful that sufficient manpower will be available to operate all plants effectively. 2. Very little local experience with land application. 3. Operation of land application systems would be limited by wet and cold periods.
4. Suburban Maryville/ Alcoa	9.2	1. Supports centralized development. 2. Impacts as discussed for alternative 1 from Townsend package plant. 3. Some increased discharge to Tennessee River.	1. Lack of existing water quality or public health problems makes project rank low on state priority list and severly limits chances for EPA funding. 2. Could be implemented in similar manner as existing county wastewater facilities.	1. Operation of a Townsend package plant if constructed would be very important requiring new operators and treatment engineers. 2. Some increased O&M requirements at Maryville WWTP. 3. Small diameter sewers more difficult to inspect and maintain. 4. Added operating requirements from Townsend package plant.

TABLE 1
(Continued)

Alternatives	Present Worth Cost (in millions)	Environmental Impacts	Implementability	Operability
5. Limited 201	$13.0	1. Supports land use plan although induced development could occur. 2. Some service areas include prime agricultural lands. 3. Additional surface discharge to Tennessee River. 4. Would likely induce economic growth especially in Townsend area. 5. Would likely lead to increased runoff in Little River and decreased water quality. 6. Could lead to strain on local services if growth were not controlled.	1. Lack of existing water quality or public health problems makes project rank low on state priority list and severely limits chances for EPA funding. 2. No local agency is presently staffed or equipped to implement this alternative. 3. Local share of project costs is high.	1. Some potential design and construction problems with Townsend interceptor. 2. Increased O&M requirements at Maryville WWTP. 3. Small diameter gravity sewers are more difficult to inspect and maintain.
6. Full 201	25.8	1. Inducement of growth beyond that forecast in land use plan. 2. Increased runoff to Little River leading to decreased water quality. 3. Development on prime agricultural lands. 4. Strain on other services and facilities. 5. Additional discharge to Tennessee River. 6. Would likely induce economic growth expecially in the Townsend area.	1. Lack of existing water quality or public health problems makes project rank low on state priority list and severely limits chances for EPA funding. 2. No local agency is presently staffed or equipped to implement this alternative. 3. Some citizens may object to growth inducement potential. 4. Local share of project costs is very high.	1. Some potential design and construction problems with Townsend interceptor. 2. Increased O&M requirements at Maryville WWTP. 3. Small diameter gravity sewers are more difficult to inspect and maintain.

PART C - DESCRIPTION OF THE PREFERRED ALTERNATIVE

After the systematic evaluation of all alternatives, the use of on-lot systems is selected as the most cost effective and environmentally sound means of wastewater management for Blount County. This approach to wastewater management can be implemented through either the on-lot system alternative (alternative 2) if the local citizenry desires to establish an on-lot management agency or the no federal action alternative (alternative 1) if a decision is made locally not to establish such an agency.

The on-lot alternative would provide for renovation of existing on-lot systems which are malfunctioning and disposal of wastewater from future development using on-lot disposal systems. At this time, the decision is made to provide EPA cost-sharing only for the renovation of on-lot systems. If at some future point, development in Townsend reached a level where wastewater disposal needs can not be met using well managed on-lot systems, EPA will review the possibility of funding a small community land application or other system which would provide protection for the Little River.

Agency regulations stipulate that EPA funding for on-lot disposal systems may only be approved if a local on-lot management agency is in place to regulate the design, installation, maintenance and operation of these systems. It would be necessary, therefore, for such an agency to be established in Blount County prior to approval of federal funds for on-lot renovations.

On-lot systems could be renovated using a number of different conventional septic tank/soil absorption systems or elevated mound systems. Either approach is considered by EPA to be an innovative and alternative system and, hence, is eligible for funding of 85% of project costs.

It may be appropriate for the responsible local agencies to extend collection sewer lines to specific areas near existing interceptor lines where cost, development density and soil conditions dictate. Costs for these lines as well as any other future wastewater management facilities could be funded by local sources or other state or federal grant or loan programs. Other small treatment systems may be constructed with local funds to support higher density growth in outlying areas. The findings and conclusions of this EIS do not preclude other agencies from deciding to assist the County based on other program goals and selection criteria.

PART D - BASIS FOR DECISION

The EIS has documented no public health or other water quality related problems which would justify selection of any of the interceptor alternatives or the small community system alternative. The current low ranking of this project on the state priority list supports this conclusion. In fact, the stimulation of development which could accompany the construction of sewer lines would actually lead to the decrease in water quality in the Little River through storm water runoff. The continued use of on-lot systems which is presented in alternatives 1 (no federal action) and 2 is the most cost-effective, environmentally sound wastewater management option available. The no federal action alternative is the least costly alternative; however, the additional $4.8 million in present worth of the on-lot system alternative may be justified to promote the renovation of existing spot septic tank failures located throughout the study area. Implementation of this alternative would result in the elimination of existing septic tank failures and odor problems and the establishment of an on-going program that would assure maintenance of high water quality in the future.

EPA's remote sensing study identified 259 surface failures and 1,445 seasonal failures in the study area. Many of these areas can be picked up with the extension of collector lines from the Maryville and Alcoa systems. The problems in the rural areas are so widely dispersed and so limited in extent that the costs necessary to provide centralized service to these areas would not be justified; and renovations to these systems could be provided relatively inexpensively. In addition, the offer of EPA funds for renovations contingent upon the establishment of a management system would encourage the establishment of a regular schedule for pumping out septic tanks, encourage improved siting and maintenance practices and provide a system for renovation of systems which fail in the future. Thus, this alternative would improve wastewater management practices throughout Blount County both now and in the future. The residents of Blount County and their elected local officials must determine if the long-term elimination of potential public health nuisance and water quality problems justifies the creation of the management agency.

PART E - DRAFT EIS COMMENTS

Either written or oral comments on the Draft EIS were received from the following sources:

Federal Agencies

U. S. Department of Agriculture, Soil Conservation Service
U. S. Department of the Air Force, Eastern Regional Civil Engineer
U. S. Department of the Army, Nashville District Corps of Engineers
U. S. Department of Health and Human Services, Public Health Service
U. S. Department of Housing and Urban Development, Atlanta Regional Office
U. S. Department of Interior

State Government

Tennessee State Department of Public Health, Division of Management
Tennessee State Historical Commission
Tennessee State Planning Office

Local/Regional Government

East Tennessee Development District
City of Maryville

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Interested Groups

Kressin, Stevens and Erickson, Attorneys at Law
Sierra Club
J. R. Wauford and Company, Consulting Engineers

Individuals

Mrs. T. V. Finger
Mr. Dennis W. Weeter
Mrs. Gail Harris

Chapter I

-INTRODUCTION-

CHAPTER I

INTRODUCTION

This Final Environmental Impact Statement (FEIS) for the Blount County, Tennessee Wastewater Facilities supplements the Draft EIS issued in December 1982. The EIS has been prepared in accordance with the Council on Environmental Quality (CEQ) Guidelines and EPA Guidelines for the preparation of Environmental Impact Statements. This EIS is also in response to the requirements of Public Law 91-190, the National Environmental Policy Act of 1969, which requires the preparation of an EIS for any major federal action that will significantly affect the quality of the environment. While this summary document is intended to be comprehensive, the supporting information furnished with the Draft EIS should be reviewed and is incorporated here by reference. It is to be noted that this Final EIS supercedes the Draft EIS wherever conflicts between the two exist.

The Final EIS contains eight chapters. Chapter II, EPA Decision, describes in detail the preferred alternative. Chapter III presents a summary of the Draft EIS, including a description of the important environmental features of the area; a brief description of the wastewater management alternatives evaluated in the EIS and a review of the findings of that evaluation. Chapter IV presents any revisions and additional information gathered after issuance of the Draft EIS. EPA's responses to comments received on the Draft EIS are presented in Chapter V. Chapter VI contains the transcript of the Draft EIS Public Hearing held on February 22, 1983. All written comments received on the Draft EIS are presented in Chapter VII. Chapter VIII provides a list of the persons responsible for preparation of the EIS.

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Chapter II

-EPA DECISION-

CHAPTER II

EPA DECISION

PART A - PURPOSE AND NEED FOR ACTION

The Blount County, Tennessee EIS is being prepared to address the provision of wastewater treatment and disposal facilities for the Blount County 201 Facilities Planning area. Phase I of the Facilities Plan which provides facilities for the cities of Maryville and Alcoa has been provided funds for construction. The focus of the EIS is on wastewater facilities proposed in the 201 Plan for Phase II funding.

Centralized wastewater transmission systems are operated within Maryville, Alcoa and adjacent areas of Blount County by the Maryville Utilities Board (MUB), the city of Alcoa and the Blount County Utilities Board respectively. All centralized wastewater treatment and disposal within Blount County is conducted by the MUB at their treatment plant with surface discharge to the Tennessee River. A small number of independently operated package plants also exist. Most of the rural area is served by on-lot septic tank systems.

In 1976, the local applicants completed preparation of a 201 Wastewater Facilities Plan. The plan proposed an extensive series of interceptor lines throughout the County including service to many existing rural areas. The plan became very controversial due to a high potential for growth in environmentally sensitive areas. The most controversy centered on the Townsend area. Particular concern was directed toward the impacts of growth on the Little River, prime agricultural lands and the existing life style of the area. The 201 Plan was based on the assumption that extensive resort oriented growth would soon occur in the Townsend area.

Because of the controversy surrounding growth in the Townsend area and potential impacts to environmentally sensitive areas, the Environmental Protection Agency (EPA) decided to prepare an EIS with respect to wastewater management facilities to serve Blount County. Subsequently, a

Notice of Intent was issued by the EPA Regional Administrator on November 14, 1979.

PART B - DESCRIPTION OF THE PREFERRED ALTERNATIVE

EPA has selected on-lot systems as the preferred wastewater management alternative for the Blount County study area. The selected alternative is alternative 2 if the local citizenry desires a management agency or alternative 1 if the establishment of such an agency is not deemed to be appropriate for Blount County by local residents and their elected officials.

These alternatives would provide management of wastewater in most portions of the study area using mainly on-lot treatment and disposal systems. It may also be appropriate for the responsible local agencies to extend collection sewer lines to specific areas near existing interceptor lines where cost, population densities and soil conditions dictate. Costs for such lines would be funded with local funds or funds from other state or federal programs where applicable.

For alternative 2, the first component of the alternative is the EPA funded renovation of existing on-lot systems which are found to be malfunctioning or failing. It has been estimated that 1,680--about 15% of all existing systems--may need renovation, based on discussions with officials of the Blount County Health Department and the results of a remote sensing study conducted by EPA's Environmental and Photographic Interpretation Center. The actual number of system renovations may vary from this estimate, and a detailed evaluation of these systems will be necessary to accurately determine the systems in need of renovation.

Renovation could involve a number of different actions depending on the source and severity of existing problems. Some of the remedies which could be taken to eliminate system problems would include:

- Artificial drainage, regrading and filling, holding tank, or total reconstruction
- Repair plumbing, reduce flows generated within the home (or business) or eliminate inflow from foundation drainage
- Remove materials from septic tank
- Periodically dose and rest the disposal area, add more absorption area, remove clogging of absorption area with hydrogen peroxide (septic tank cleaning fluids such as TCE are not recomended), remove accumulations within distribution piping, reconstruct part (or all) of the system, or abandon the site
- Direct surface runoff
- Intercept seasonally high groundwater
- Increased fill or mound absorption area
- Eliminate discharging foundation drains
- Divert rooftop down spouts discharges away from absorption area
- Reduce wastewater generation by repairing leaky fixtures and adding flow reducers

The second component of this alternative is the non-EPA funded development of on-lot systems to accommodate the wastewater needs of future development in the study area. Agency regulations do not allow grant money to be provided for development of new on-lot systems; therefore, the systems would need to be built and paid for by developers and homeowners as is now the practice.

Selection of future on-lot treatment and disposal methods will need to be made for each household and business based on soil conditions, proximity to water supply wells and other limiting factors. A septic tank-soil absorption system would be implemented wherever limiting factors are not significant, because these technologies have the lowest costs. Variations of technologies such as dual absorption fields, could also be installed. More innovative systems should be implemented where soils or other factors are limiting.

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A small community land application system was considered for Townsend. At this time, the decision is made not to provide EPA funds for this component of the alternative. If at some point in the future, development in Townsend reaches a level where wastewater management needs can not be met using well managed on-lot systems, EPA will reconsider the decision to fund a small community land application system in Townsend. The decision concerning future federal funding in Townsend will not be affected by the presence or absence of an on-lot management system in the County.

PART C - FINDINGS OF EVALUATION

1. Cost

Total net present worth of this alternative is estimated to be about $13.0 million if a management agency is established. This figure includes costs to renovate 1,680 existing on-lot systems which would be 85% federally fundable, and costs for the on-lot management agency and future on-lot systems through the year 2000, both of which are not eligible for EPA funds.

Based on this division of funding for alternative 2, total annual costs to be handled by local sources is estimated to be about $1.37 million per year. Distributed uniformly over the population to be served, this annual cost results in a service charge of about $100 per household per year in unsewered areas and $118 in sewered areas. The average annual household costs for on-lot systems in other alternatives is about $40 per year, therefore, these service charges represent about $60 per year in additional costs to support the management agency. However, with these added costs comes the security to each homeowner of having most maintenance and minor repairs to his on-lot system covered by the management agency. Various costing alternatives are discussed in Part D.

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2. Operability

On-lot wastewater technologies have been proven effective when properly sited and maintained and they are unsophisticated and relatively easy to operate. Sand mounds have not been implemented in Blount County; however, they have been proven effective based on use in many other locations. Table II-1 summarizes the major operability considerations of on-lot systems.

3. Environmental Impacts

The implementation of the on-lot alternative would probably lead to slightly lower densities in the urban residential land use for the Maryville/ Alcoa periphery than would result from the sewer system alternatives. Also, the clustering of small developments in the rural areas would not be encouraged by this alternative. In general, however, this alternative does support the development pattern outlined in the Blount County land use plan.

At this time, no significant water quality impact or associated environmental problems were seen to result from failure of existing on-lot systems in Blount County. Implementation of the on-lot system renovation program included in alternative 2 would actually eliminate malfunctioning of existing systems and eliminate any future increase in wastewater discharge to surface waters.

In outlying portions of the County where wastewater absorption fields overlie the major aquifers (Knox dolomite, Lenoir and Holston limestones, and Athens shale), groundwater contamination could become a problem if adequate treatment of wastewater does not occur. If soil absorption systems were installed or operated improperly pollutants might reach groundwater. However, at this time, no cases of groundwater contamination due specifically to soil absorption systems have been documented. With proper monitoring of installation and operation by either the County Health Department or an on-lot management agency there would be no problems with future systems.

TABLE II-1

MAJOR OPERABILITY CONSIDERATIONS FOR ON-LOT WASTEWATER SYSTEMS

	On-Lot Systems
Advantages	1. Systems are neither sophisticated nor complex. They also have proven effectiveness. 2. Even soils with "fair" ratings can be suitable for conventional systems. 3. Periodic maintenance is recommended only every 2 to 5 years. 4. Energy and chemical needs are small even for mound systems.
Disadvantages	1. Variable soil characteristics are important. 2. Consequences of improper operation can be significant. 3. A large number of facilities would be utilized. 4. Experience with sand mound systems is not available within the study area. 5. Concerns with "poor" soils: communities of Lakeview, Lakeview Estates, Rockford, Edgewood Acres, Rocky Branch, Walland, Chilhowee View, West Maryville, Bungalow and Dotson. 6. Concerns with "poor" soils: Seymour/Shooks Gap and Alnwick interceptor service areas. 7. 54 percent of on-lot systems were reported by EPIC to be failing in Carlton; 41 percent in Cherokee Heights/Highland Acres. 8. Specific reasons for failures can only be speculated without inspecting a number of systems.

Most of the County consists of soils rated as fair for the successful operation of conventional on-lot soil absorption systems. Some problems with these systems could occur where they are located too close to a restrictive horizon such as a seasonally high water table less than two to four feet from the bottom of the absorption area or shallow or fractured bedrock. Fractured bedrock that reaches to open solution cavities can readily transmit contaminated water to discharge points such as wells or surface streams.

All soils in the study area, however, are adequate for continued successful operation of modified or alternative systems such as sand mounds or oversize absorption fields (See Table II-2). Where these systems are installed for new homes or as replacement systems, groundwater quality problems that could occur as a result of soil restrictions such as the typically shallow depth to bedrock could be avoided.

Impacts to terrestrial environmental systems is mainly a function of the conversion of natural land to developed areas. The predominant use of septic systems under the on-lot alternative could require larger lot sizes and larger cleared areas on the average in order to accommodate drainage fields with a resulting impact on terrestrial resources. The use of more innovative techniques for on-lot systems under this alternative could also lead to increased development of more highly sloping areas which are typically forested. This alternative, however, will not induce growth and development as most of the others would. Therefore, land conversions for growth and resulting impacts on terrestrial systems should be less than other alternatives.

The on-lot alternative will generally follow the existing County land use plan, encouraging the orderly provision of services and facilities which it provides. However, areas surrounding Maryville and Alcoa may develop at slightly lower densities than would otherwise be the case. This could lead to some small increases in cost for the provisions of some services and facilities. Under the no federal action alternative, growth and development will also proceed as projected; however, this alternative would require significant expenditures by local government to extend sewer

TABLE II-2

SOIL SUITABILITY FOR ON-LOT SYSTEMS
THROUGHOUT THE BLOUNT COUNTY EIS STUDY AREA

Subarea within Blount County	Number of Homes/Establishments	Failures Reported by EPIC		Predominant Soil Series Within Developable Area(1)		Soil Suitability Ratings for On-Lot Systems(2)	
		Number	% Rate	Name	% of Total Area	Conventional Beds/ Trenches/ Absorption Fields	Elevated Sand Mounds
Northwestern Blount County	1,780	211	12	Alcoa	10	Fair	Good
				Cumberland	10	Good	Good
				Dewey	10	Fair	Good
				Decatur	20	Good	Good
				Dunmore	10	Fair	Good
				Talbott	20	Fair	Good
				Sequoia	10	Poor	Fair
				Etowah	10	Fair	Good
Maryville-Alcoa Periphery	6,530	986	15	Dandridge	10	Poor	Fair
				Dewey	20	Fair	Good
				Decatur	20	Good	Good
				Dunmore	20	Fair	Good
				Sequoia	10	Poor	Fair
				Hamblen	20	Poor	Fair
				Cumberland	20	Good	Good
				Etowah	20	Fair	Good

TABLE II-2 (Continued)

SOIL SUITABILITY FOR ON-LOT SYSTEMS
THROUGHOUT THE BLOUNT COUNTY EIS STUDY AREA

Subarea within Blount County	Number of Homes/Establishments	Failures Reported by EPIC		Predominant Soil Series Within Developable Area(1)		Soil Suitability Ratings for On-Lot Systems(2)	
		Number	% Rate	Name	% of Total Area	Conventional Beds/ Trenches/ Absorption Fields	Elevated Sand Mounds
Nails Creek	929	149	16	Dewey	20	Fair	Good
				Decatur	20	Good	Good
				Dunmore	20	Fair	Good
				Sequoia	20	Poor	Fair
				Hamblen	10	Poor	Fair
				Litz	10	Poor	Fair
Eastern Blount County	1,680	231	14	Ramsey	30	Poor	Fair
				Dandridge	20	Poor	Fair
				Dunmore	10	Fair	Good
				Hamblen	20	Poor	Fair
				Alcoa	10	Fair	Good
				Jefferson	10	Good	Good
Townsend/ Kinzel Springs	724	28	4	Allen	20	Fair	Good
				Hayter	10	Fair	Good
				Ramsey	40	Poor	Fair
				Jefferson	10	Good	Good
				Barbourville	10	Fair	Good

TABLE II-2 (Continued)

SOIL SUITABILITY FOR ON-LOT SYSTEMS
THROUGHOUT THE BLOUNT COUNTY EIS STUDY AREA

Subarea within Blount County	Number of Homes/Establishments	Failures Reported by EPIC		Predominant Soil Series Within Developable Area(1)		Soil Suitability Ratings for On-Lot Systems(2)	
		Number	% Rate	Name	% of Total Area	Conventional Beds/ Trenches/ Absorption Fields	Elevated Sand Mounds
Townsend/ Kinzel Springs (Cont.)							
				Sequatchie	10	Fair	Good
				Staser	10	Poor	Good

(1) Developable areas have the following soil characteristics:

Depth to High Water - Greater than two feet
Depth to Bedrock - Greater than two feet
Flooding - None occurs
Slopes - Less than 15 percent

Source: National Soils Handbook, Part II, March 1978

Note: With special design sites up to 20-25% can be developed.

Approximate percentages of developable area in Blount County for each of the designated sub-areas are as follows:

Northwestern Blount County: 40%
Maryville-Alcoa Periphery: 75%
Nails Creek: 65%
Eastern Blount County: 20%
Townsend-Kinzel Springs: 10%

(2) Soil suitability ratings based on United States Department of Agriculture rating criteria.

service to areas in the periphery of Alcoa and Maryville. This could possibly divert funds from the support of other public services.

For the most part, the use of on-lot systems will have no effect on economic activity in Blount County. The availability of sewer service to the Townsend area could have significant influence on economic activity within that area. If such service were provided now it would act as a stimulus to future economic activity. This stimulus would in effect be the provision of a subsidy to future economic developers by current federal and local taxpayers.

Within the Blount County study area there are extensive areas of environmentally significant agricultural lands. Continued growth and development in Blount County will lead to the continued conversion of agricultural lands for residential and commercial land use. The no federal action and on-lot alternatives will not provide EPA funds to encourage this development. As mentioned above, however, a possibility exists that lower density development may occur with a slightly greater amount of total acres converted to residential land use. The difference would be slight, however, and the direct support of conversion of farmland in Townsend and along long interceptor alignments will be eliminated.

The renovation of failing on-lot systems and the construction of sand mound systems under the on-lot alternative should not seriously affect cultural resource integrity. Under these actions, very few additional undisturbed areas will be impacted.

No major odor problems exist in the study area. In areas on on-lot systems, odor would not be a problem unless there are system malfunctions. This situation is likely to be improved if an on-lot management agency is implemented in Blount County to renovate existing septic failures.

4. Implementability

Implementation of on-lot systems is not seen as being limited by financial feasibility. On-lot systems have been the primary means of wastewater disposal in the study area and they have been afforded in the past. Even if sand mound systems are required in most areas in the future, this cost is not seen as unfeasible. The capital cost for a mound system is more than twice that for a conventional absorption system, however, it is still seen as affordable to most homeowners.

EPA funding would be available for renovation of on-lot systems thereby reducing the local public or private expenditures and further increasing financial feasibility. As an alternative technology, renovation of on-lot systems would be eligible for a federal grant of 85% of the total project cost. In addition, it would be funded from a separate funding pool for which projects are considered separately from conventional 201 grant applications. Since Blount County is fairly low on the priority list, this alternative basis for the grant award could greatly increase the likelihood of implementation.

The establishment of an on-lot system management agency would be necessary in order to be eligible to receive EPA funds for the on-lot alternative. The start-up and initial administrative and project costs for this management agency have been included in the total project costs for this alternative, however, they are not fundable by EPA. Future costs would also be dependent upon local funding and the operating design of the management agency as discussed above. Annual costs would be affordable and long-term functioning should be financially feasible.

If an on-lot system management agency were implemented it would be necessary to establish a new County or city/county agency or else substantially augment the existing county health department. It is also likely that several new legal authorities would have to be granted to this agency by the County or state. The management agency would need a permanent funding source for operation as well as the power to place liens or use other powers to compel compliance with regulations adopted to cover proper operation and maintenance.

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The public is likely to react favorably to continued use of on-lot systems since local residents are at least somewhat familiar with conventional on-lot systems through years of utilization. Sand mounds have not been used, however, and this lack of familiarity plus their landscape visibility may result in some public reluctance.

The proliferation of on-lot systems throughout the County may be unacceptable to those of the public who see these systems as a cause of water quality and other environmental problems. Other persons may object to this alternative because it does not provide the impetus to commercial and residential development that other alternatives would, especially in Townsend.

The public in Blount County is not familiar with the on-lot system management district approach. Some people may view on-lot management warily for two reasons. First is the cost issue. On-going operating expenses for this agency would have to be raised in some manner from local sources. Also operation and maintenance costs for on-lot systems are likely increase with more regular inspections and enforcement. If these costs are borne either directly by the homeowner or indirectly through management agency funds it will still result in increased expenses for County residents.

The second public concern results from the need for periodic inspections and the enforcement of operation and maintenance standards. In Blount County the public may be reasonably resistant to a new form of government control and more frequent visits by on-lot inspectors to individual homes. Agreements providing access to on-lot systems for operation and maintenance purposes would be needed.

PART D - TOWNSEND--SUMMARY OF ALTERNATIVES AND ENVIRONMENTAL IMPACTS

One of the primary focuses of this EIS from the outset has been the impact of wastewater facilities on the Townsend area, particularly the

Little River. A number of management alternatives were evaluated in the EIS including the provision of wastewater disposal using an interceptor to the Maryville WWTP, small community systems and on-lot systems.

The analysis of on-lot system functioning performed as part of this EIS identified very few failures or malfunctions in the Townsend/Tuchaleechee Cove area. In fact, this area had the lowest rate of observed failures of any subunit within the study area. Information from the Blount County Health Department also indicated that soils are very suitable for on-lot disposal in this area and that few system failures have been reported. Water quality sampling performed as part of this EIS showed high water quality in the Little River and did not identify any water quality impacts related to existing wastewater disposal. A further sampling program conducted by the TWQC has shown continued high water quality even with recent enlargements of tourist accommodations and high rates of usage associated with the Knoxville World's Fair.

Growth and development is taking place in Townsend at a faster rate than in most other parts of the County. However, the overall level of population including seasonal accommodations is fairly low. Based on forseeable indications, it will still represent a relatively small percentage of the total study area population, even by the end of the planning period.

Alternatives 5 and 6 which provide interceptors to Townsend to convey flows to the existing system are first-of-all, not cost effective, given population projections. They could also result in some environmental impacts to the Little River during construction. Most importantly, however, the interceptor to Townsend expecially as sized under alternative 6 would have a significant growth-inducing potential on the Townsend area. Both the city of Townsend and surrounding areas under County jurisdiction lack any form of land use or development controls, including zoning, site development standards, stormwater and runoff controls or sedimentation or erosion control requirements. In this situation, induced development in Townsend could create nonpoint source pollution loads in the Little River far in excess of any point sources from wastewater management facilities. The resulting impacts to the river would be extensive.

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Alternative 4 would provide a federally funded small community land application system in Townsend. Such a system would be less able to support extensive development of the area because of limitations on treatment and disposal as well as conveyance capacity. However, the cost of this alternative would vary little from an interceptor and it is similarly not considered cost effective at this time.

Based on the above information on soil suitability, existing system operation, water quality and future development, it is concluded that well managed on-lot treatment and disposal systems are the most cost effective, environmentally acceptable wastewater management system for the Townsend area. Present systems are not resulting in water quality problems. There is land with suitable soils available for the projected future development and these systems can be readily afforded by homeowners. On-lot systems are also feasible for moderate scale commercial, tourist oriented development. If large-scale development does occur in the future, either private developers or local or federal government agencies are still free to implement a small community land application system.

PART E - MITIGATIVE/ENHANCEMENT MEASURES

Improper siting and maintenance practices are the major reasons for on-lot system malfunctions. Local agencies often lack time and resources for proper enforcement of on-lot system design and installation guidelines; the task of utilizing site data and system designs for effective enforcement is difficult. In addition, local authorities are sometimes pressured into approving the construction of the least expensive on-lot systems on poor or marginal soils. Furthermore, the more innovative on-lot technologies such as on-lot sand filters, aerobic treatment and sand mounds have not been implemented to any significant extent within the Blount County EIS study area to date. Finally, maintenance of on-lot systems is often ignored by the homeowner until a problem develops. Pumping out systems on a regular basis would help prolong the life of many systems within Blount County.

In order to help Blount County alleviate septic tank problems which have built up over the years, EPA would provide funding for a one-time renovation program addressing documented failures of existing on-lot systems. As EPA regulations require, this program could not receive federal funds unless an on-lot management agency is set up locally. To qualify, this agency would have the power to enforce appropriate siting and maintenance requirements to alleviate the problems discussed above. Basically, the on-lot management agency would be responsible for all existing and future on-lot systems within the study area including:

- Renovation of existing, failing systems
- Site evaluations and system designs
- Periodic inspection and maintenance of all on-lot systems
- Infrequent troubleshooting of malfunctioning on-lot systems
- Overseeing all other on-lot system activities conducted by professional engineers and licensed installers.

A number of options are available for: 1) allocating efforts among the managing agency, professional engineers and licensed installers, 2) financing the efforts and 3) determining which existing department (if any) would become the managing agency. Decisions about these matters will be made at the local level (with EPA assistance, if desired). One possible allocation of effort to address the first option above is presented in Table II-3 Table II-4 presents some on-lot management options. Other considerations which are important to establishing an on-lot management agency, such as authority which the agency will need, are presented in Table II-5 Table II-6 presents assumed costs for the proposed Blount County on-lot management agency.

As stated in Part C, the user charge for this alternative may vary if certain costing assumptions are altered. The figure of $100 per household per year includes costs for the management agency and annualized costs for both renovation of existing systems and installation and operation of systems for new development.

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TABLE II-3

POSSIBLE DUTIES ASSOCIATED WITH MANAGEMENT OF ON-LOT WASTEWATER SYSTEMS WITHIN THE BLOUNT COUNTY, TN EIS STUDY AREA

	Primary Management Agency	Registered Professional Engineer	Licensed System Installer
Preliminary Design	X		
Percolation Tests and Site Evaluation	X		
Permit	X		
Design and Review of Field Data		X	
Review of Design	X		
Installation			X
Construction Management	X	X	
Periodic Inspection	X		
Periodic Maintenance	X		X
Infrequent Troubleshooting	X	X	
Public and Interagency Information	X		
Environmental Monitoring	X	X	

TABLE II-4

SOME ON-LOT MANAGEMENT AGENCY OPTIONS

1. Duties of management agency, professional engineer and system installer (see Table 2).

2. Primary management agency:

   - Blount County Health Department;
   - Blount County Utilities Board;
   - Alcoa Utilities Board;
   - Maryville Utilities Board; or
   - A new agency.

   Revisions to county regulations may be needed.

3. Personnel:

   The following comprise the scenario on which costs are based:

Civil/sanitary engineer	1
Soil scientists	1.5
System inspectors	2

   to handle management needs only.

4. Local financing options:

   - Different fees for each system based on services provided;
   - User charge assessed uniformly throughout the study area;
   - Some combination of these two options.

5. Permitting and inspection procedure considerations:

   - Permit renewal frequency;
   - Engineering and installation reports;
   - Checklists for field efforts, design, installation and inspection;
   - Penalties for non-compliance;
   - Easement or ROW requirements;
   - Alternative vs. conventional systems.

TABLE II-5

OTHER ON-LOT MANAGEMENT CONSIDERATIONS

- Strong support from the Blount County government and the Blount County Health Department will be important.

- Interactions between the agency and homeowners are quite important. A Homeowner's Guide may be worth the effort needed to prepare.

- Authority is needed to enter private property, perform site evaluations and possibly dig a few test pits.

- Authority is also needed to enter private properties to repair or replace malfunctioning systems.

- Revisions or additions to Blount County and State of Tennessee regulations may be required. As a minimum, verification is needed that no legal conflicts exist.

- On-lot system operating permits can be implemented so as to require renewal every 2 to 4 years when each on-lot system would be inspected. Penalties for refusing to comply could be established and enforced.

- Procedures for securing permits and conducting inspections for existing on-lot systems would need to be developed and implemented.

- The flow of funds to and from the managing agency will need to be monitored. The preferred method(s) for collecting funds will need to be devised and applied.

- Agency professionals may require additional training, particularly with regard to types of on-lot systems not yet employed within Blount County.

- Engineers must be qualified and installers must be licensed to work with all types of on-lot systems to be employed.

- Installers should stockpile parts which are inexpensive or routinely needed for system repairs.

- Installers could be required to submit quarterly activity reports (e.g. maintenance and septage hauling activities - amounts and locations).

- The extent of environmental monitoring to be conducted will need to be established.

- Consideration can be given to performing another remote sensing (aerial photo) study by 1990.

TABLE II-6

ITEMS INCLUDED WITH A POTENTIAL ON-LOT MANAGEMENT AGENCY FOR BLOUNT COUNTY, TN

*1. Renovation of approximately 15 percent of existing systems (1,680 systems)

- 840 systems renovated by use of conventional on-lot technology ($1,350 construction costs per system)
- 840 systems renovated by use of alternative (sand mound) technology ($3,500 construction costs per system)
- Design and other costs not directly associated with construction are included:

1) Perc tests/site evaluation
2) Field effort review and design
3) Backhoe rental
4) Construction management, legal fees, insurance

These costs are approximated to be the same as 30 percent of construction costs.

2. Periodic inspection and maintenance of all on-lot systems: $30 per system per year.

3. Salaries of professionals: $80,000 per year plus 50 percent overhead.

4. Infrequent troubleshooting of malfunctioning on-lot systems in attempts to inexpensively renovate treatment efficiency: $100 per system per year for 10 percent of existing households.

5. Hand-held soil augers: $500 per year.

6. Design and installation of conventional on-lot systems for future homes: $1,750 per system.

*85 percent of these project costs are proposed to be covered by a Federal grant from the U. S. EPA.

It would be more typical for project costs and the operation and maintenance costs for on-lot systems to be borne directly by the private sector (the homeowners). With these charges and a variety of other options, the user charge for alternative 2 can be decreased substantially. As the following examples show, there is a wide variety of options in the design of the management agency and the resulting costs. It is conceivable that the only additional public cost associated with this approach could be the administrative costs of the management agency.

If future on-lot systems were paid for by homeowners and the financing costs for these systems removed from the public sector, user costs would fall to $70 per household.

If an extended inspection cycle with a five year interval were possible, it would decrease user charges further to $58 per household.

If the overall concept for the management agency were revised so that all operation, maintenance and project costs were paid for by the homeowner, the only responsibility for the management agency would be administering the program. Based on this concept, the remaining user charge for unsewered areas would be about $18 per year. This charge would only cover management agency administrative costs. Each homeowner would still be responsible for regular operation and maintenance costs for each on-lot system as well as any renovation, replacement or other additional maintenance or operation actions required as a result of management agency-authorized inspections.

If at some point in the future, the Townsend small community system component of this alternative is implemented, there will be a potential for significant indirect impacts to the Little River. Development in Townsend supported by this system will result in an increase in impermeable surfaces from parking lots, sidewalks and buildings. Base flows in the Little River may decrease while storm flows increase, carrying higher loads of suspended solids, oils and grease and raising the stream temperature. Such effects could be mitigated through the adoption of some form of land use regulations and site development controls. Most important would be the limitation of development within the Little River floodplain and recharge areas if these are present. Site development controls could limit grading and final site contours, channelization and other alteration of drainage patterns, and lot area coverage. Some form of stormwater management program could significantly reduce adverse impacts of development. Such a program could include the use of detention basins, permeable paving and street and parking lot cleaning to lessen storm flow peaks and the pollutant load of these flows.

Without these controls, other developing tourist/recreation areas have seen the very resources that attracted the tourists lost to environmental decay. To avoid this result, development in Townsend should be accompanied by adequate controls.

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Chapter III

-DRAFT EIS SUMMARY-

CHAPTER III

DRAFT EIS SUMMARY

PART A- BACKGROUND OF THE STUDY

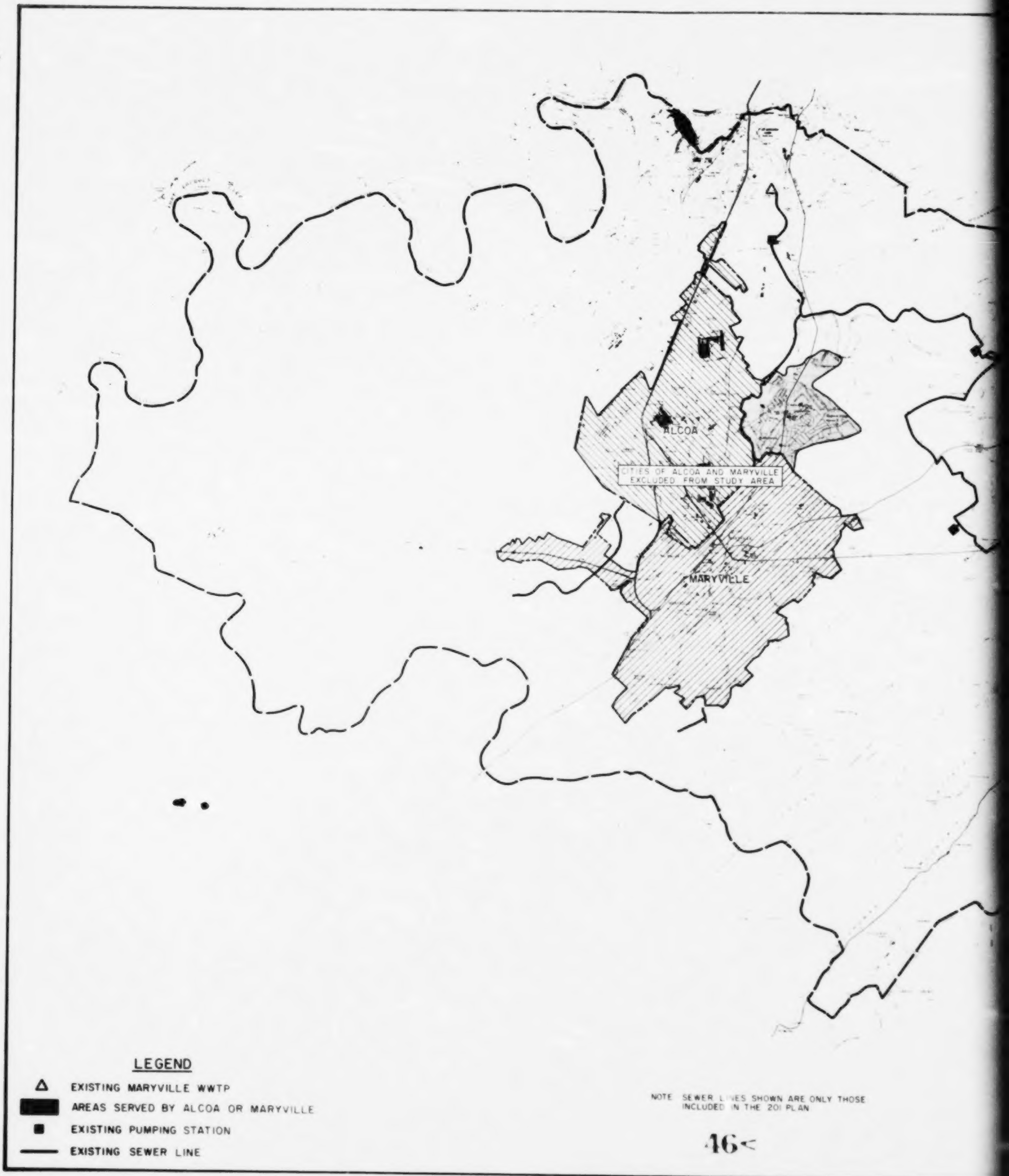
Blount County is located in eastern Tennessee just south of Knoxville and immediately adjacent to the Great Smoky Mountains National Park. The study area for the EIS includes the northern half of Blount County with the exclusion of the cities of Maryville and Alcoa as was shown on Figure 1.

Blount County is heavily endowed with numerous natural resources. Among these is the Little River which flows through the eastern portion of the study area. The Little River is very significant as a scenic area, a surface water recreational resource and the primary water supply source for Blount County.

The Great Smoky Mountains National Park covers the mountainous southeastern portion of Blount County. The park is highly accessible by way of Tennessee Route 73 which runs southeast from Maryville through Townsend. The park boundary is located approximately 18 miles southeast of Maryville and within two miles of Townsend.

Centralized wastewater transmission systems are operated within Maryville, Alcoa and adjacent areas of Blount County by the Maryville Utilities Board (MUB), the city of Alcoa and the Blount County Utilities Board (BCUB) respectively. The existing interceptor sewer lines within the EIS study area are located on Figure 3-1. All centralized wastewater treatment and disposal within Blount County is conducted by the MUB at their treatment plant with surface discharge to the Tennessee River. A small number of independently operated package plants also exists. Most of the rural area is served by on-lot septic tank systems. Studies conducted as part of this EIS have identified 259 surface failures and 1,445 seasonal failures occurring from these on-lot systems.

A


ALCOA
CITIES OF ALCOA AND MARYVILLE EXCLUDED FROM STUDY AREA
MARYVILLE
LEGEND
△ EXISTING MARYVILLE WWTP
▨ AREAS SERVED BY ALCOA OR MARYVILLE
■ EXISTING PUMPING STATION
— EXISTING SEWER LINE

NOTE: SEWER LINES SHOWN ARE ONLY THOSE INCLUDED IN THE 201 PLAN

B

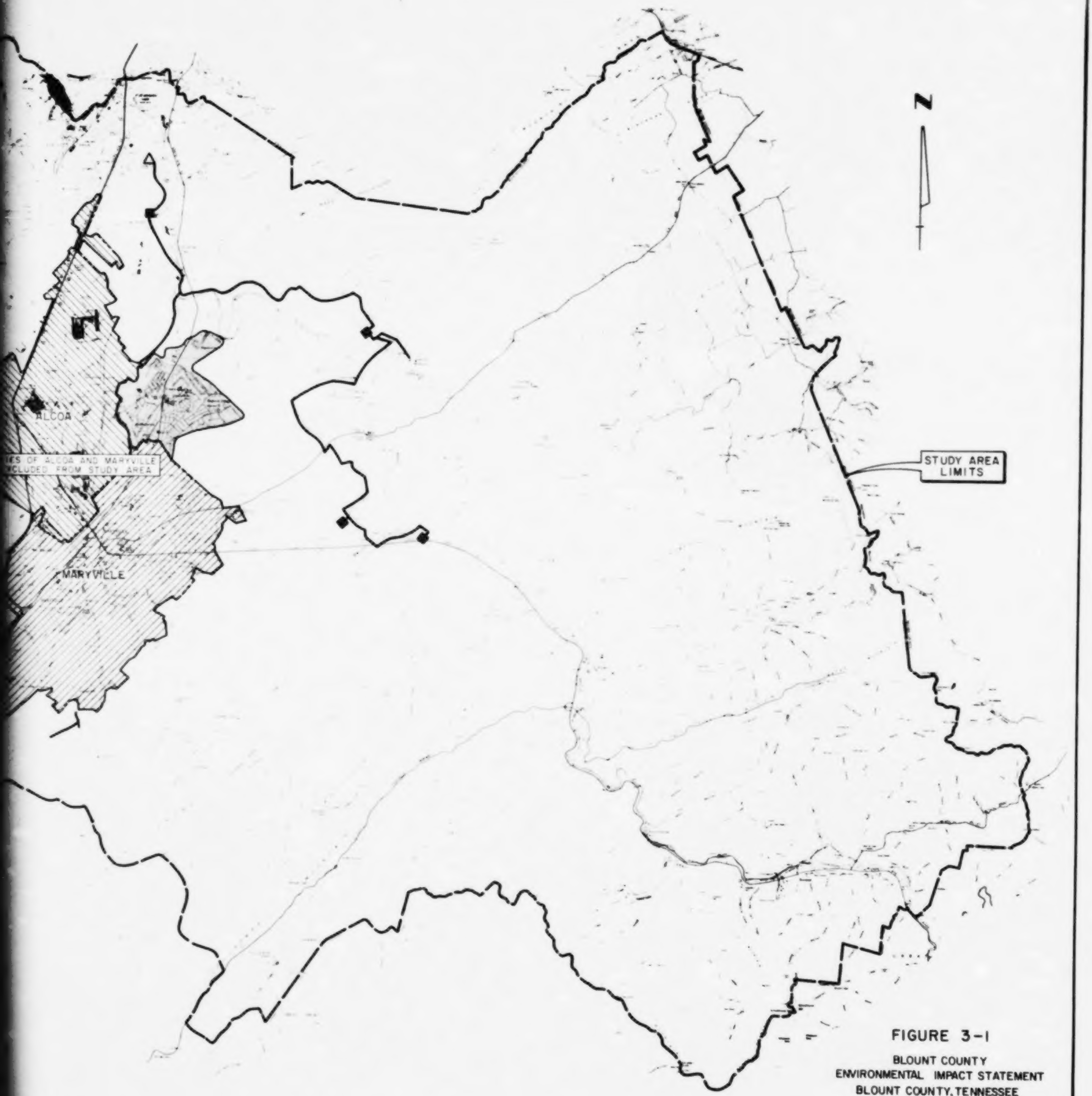

N
ALCOA
IES OF ALCOA AND MARYVILLE
XCLUDED FROM STUDY AREA
MARYVILLE
STUDY AREA LIMITS

FIGURE 3-1

BLOUNT COUNTY
ENVIRONMENTAL IMPACT STATEMENT
BLOUNT COUNTY, TENNESSEE

NOTE SEWER LINES SHOWN ARE ONLY THOSE INCLUDED IN THE 201 PLAN

EXISTING SEWER LINES

7000
0
7000
14000
SCALE IN FEET

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV ATLANTA, GEORGIA

Under the provisions of Section 201 of the Clean Water Act, Public Law 92-500, the local applicants prepared a 201 Wastewater Facilities Plan. This study provided a plan for wastewater management for a 20 year period. The plan proposed to construct a series of extensive interceptor sewer lines throughout the County including service to many existing rural areas.

This plan came under extensive scrutiny in the local community because of the perception that growth would be encouraged in environmentally sensitive areas. The most controversy centered on the Townsend area, particularly the Little River, prime agricultural lands and the existing life style of the area. The 201 Plan was based upon the assumption that extensive resort-oriented growth would soon occur in the Townsend area.

Because of the controversy surrounding growth in the Townsend area and potential impacts to environmentally sensitive areas, EPA decided to prepare an EIS to review and evaluate wastewater management facilities proposed to serve Blount County. Subsequently, a Notice of Intent was issued by the EPA Regional Administrator, November 14, 1979.

A Plan of Study for the EIS which identified the following issues to be addressed was then prepared:

1. The extent of current water quality problems in the Little River and its tributaries.
2. The extent of current on-lot system failures.
3. Appropriate population projections for the study area.
4. Indirect growth impacts of man-made activities on all aspects of the human environment such as removal of prime agricultural lands.
5. The protection of natural resources such as the Little River.
6. Direct impacts of construction and operation on and close to facility sites.

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PART B- WASTEWATER MANAGEMENT ALTERNATIVES

1. Structural Alternatives

Alternative wastewater management systems were developed for Blount County by combining wastewater transmission, treatment and disposal techniques which are presented in detail in the Draft EIS. This section presents a description of each of these alternatives. Table III-1 lists each of these six alternatives and describes the service area for each; the methods of wastewater collection, treatment and disposal and the applicable sludge disposal methods.

a. The No Federal Action Alternative

This alternative assumes that EPA grant money is not available to Blount County and that future wastewater management facilities are developed with only locally available funds. This alternative consists of a combination of on-lot, small community and interceptor systems such as the configuration shown on Figure 3-2.

In the more heavily developed areas adjacent to Maryville and Alcoa, it is probable that sewers would be gradually extended from the existing system when it is financially feasible.

In the remainder of the County, it is probable that treatment and disposal of wastewater will continue to be handled by systems on each property owner's lot. In the past, septic tank-soil absorption systems have been the standard method of on-lot disposal, and unless County regulations are changed, it is most likely that this system will remain dominant in the future. Use of the systems would be limited to areas with suitable soil and site conditions, and would limit minimum lot sizes to 20,000 to 25,000 square feet.

Under certain conditions, new development could also be served by small package treatment plants funded and built by individual developers. It is likely that more intensive developments--commercial centers, garden

TABLE III-1

ALTERNATIVES CONSIDERED IN THE EIS

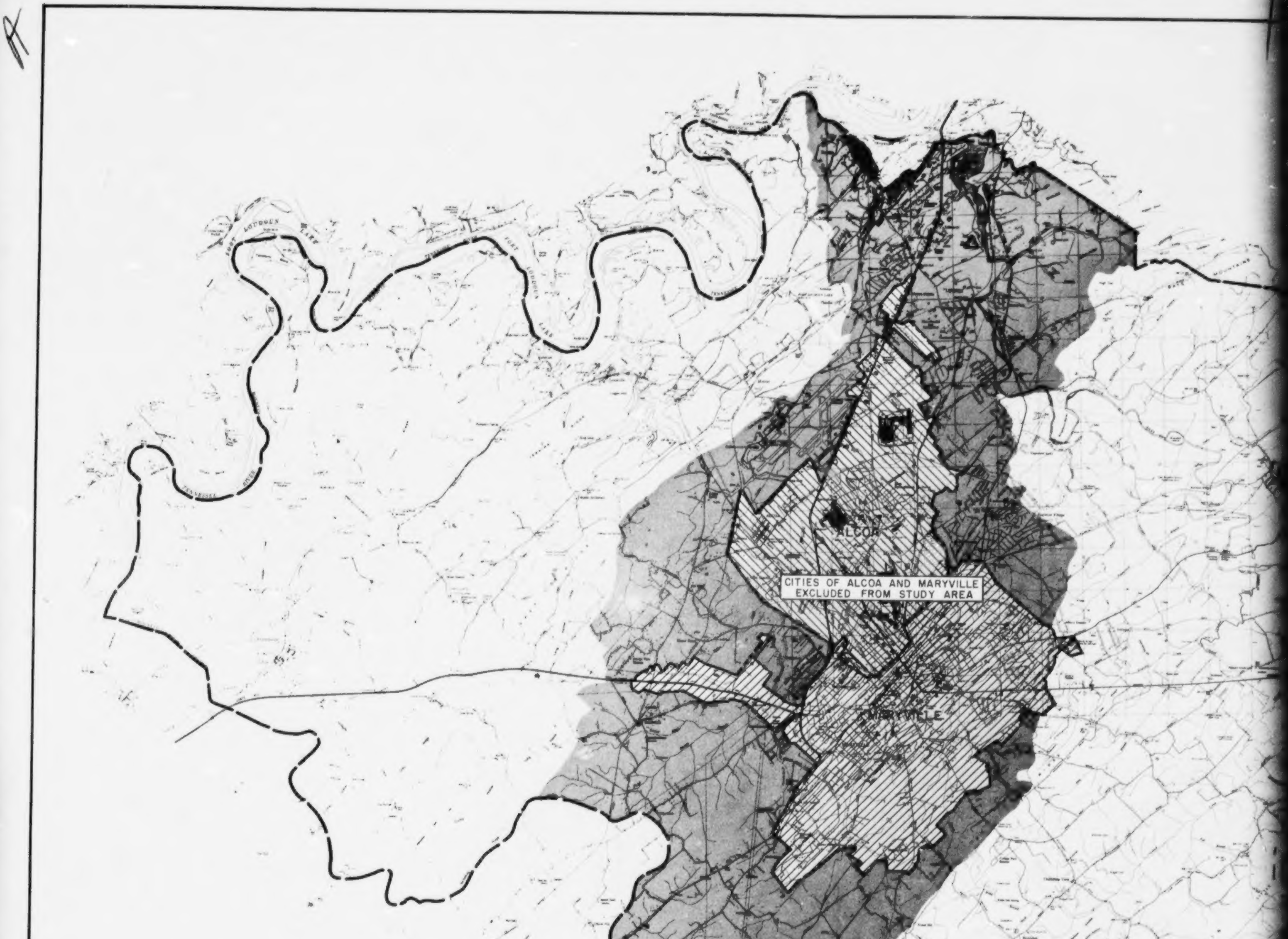
ALTERNATIVE	AREA SERVED	COLLECTION	TREATMENT	DISPOSAL	SLUDGE DISPOSAL
1. No Federal Action	Maryville/Alcoa periphery	Interceptor/collector extension	Secondary treatment (activated sludge) at Maryville WWTP	Surface water discharge to the Tennessee River	Thickening, vacuum filtration, incineration at the Maryville Regional WWTP
	Townsend	Small diameter gravity sewers, pumping stations where necessary	Secondary (extended aeration)	Slow-rate land application	Aerobic digestion and liquid land spreading
	Outlying county areas	None	Septic tank	Absorption fields	Septage collected and disposed in a suitable manner package plant sludge dried and landfilled or transferred to the Maryville Regional WWTP
2. On-Lot Systems	Entire study area except Townsend	None	Septic tank	Absorption fields and sand mounds	Septage same as above
	Townsend	Small diameter gravity sewers, pumping stations where necessary	Secondary (extended aeration)	Slow-rate land application	Aerobic digestion and liquid land spreading
3. Small Community	35 small communities as shown on Figure 2-3	Gravity, pressure or vacuum sewers and associated pumps or collection stations	(a) Extended aeration or (b) Extended aeration plus filtration	(a) Rapid rate land application (b) Slow rate land application(1), or (c) Appropriate surface water discharge to the nearest river or stream	(a) Aerobic digestion plus drying and landfilling or (b) Aerobic digestion and liquid land spreading

TABLE III-1 (Cont.)

ALTERNATIVE	AREA SERVED	COLLECTION	TREATMENT	DISPOSAL	SLUDGE DISPOSAL
4. The Suburban Maryville/Alcoa Alternative	Carlton, Mentor, Polecat Br., Louisville Rd., Lakemont and Fairview areas	Force mains and pumping stations	Secondary activated sludge at Maryville WWTP	Surface discharge to Tennessee River	Thickening, vacuum filtration and incineration at the Maryville Regiona WWTP
	Townsend	Small diameter gravity sewers, pumping stations where necessary	Secondary (extended aeration)	Slow-rate land application	Aerobic digestion and liquid land spreading
5. The Limited 201	Decreased service areas from the Blount County 201 plan (See Figure 2-6)	Gravity sewers/force mains and pumping stations	Same as above	Same as above	Same as for Alternative above
6. The Full 201	All service areas as delineated in the Blount County 201 Plan	Gravity sewers/force mains and pumping stations	Same as above	Same as above	Same as above

(1) Includes spray irrigation, lagoons or overland flow.

R


FORT LOUDOUN LAKE
ALCOA
CITIES OF ALCOA AND MARYVILLE EXCLUDED FROM STUDY AREA
MARYVILLE
LEGEND
△ EXISTING MARYVILLE WWTP
▇ REGIONAL SEWER SERVICE AREA BY THE YEAR 2000
▨ SMALL COMMUNITY SERVICE AREA BY THE YEAR 2000
☐ AREAS TO BE SERVED BY ON-LOT SYSTEMS

B

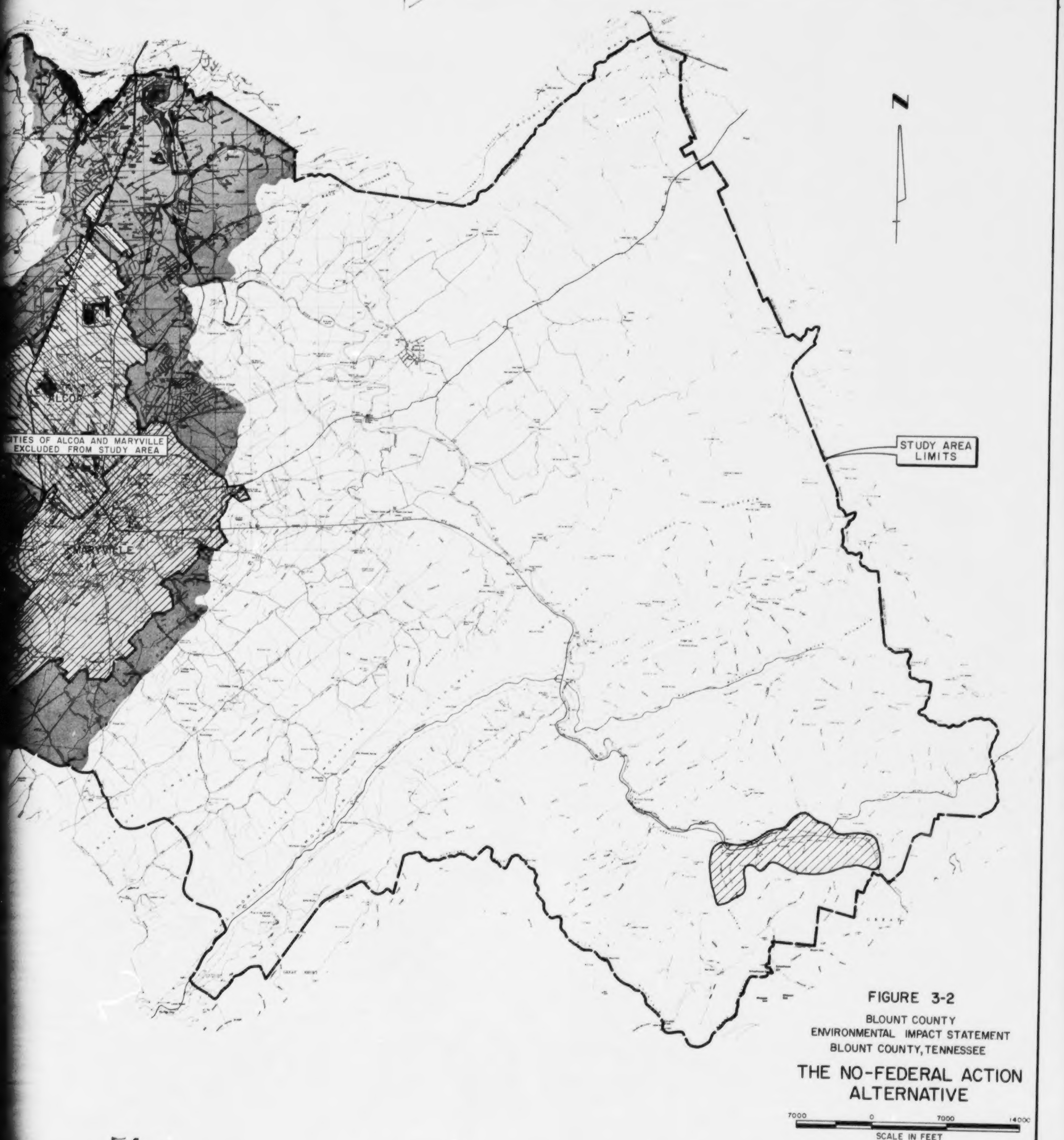

N
CITIES OF ALCOA AND MARYVILLE
EXCLUDED FROM STUDY AREA
ALCOA
MARYVILLE
STUDY AREA
LIMITS
7000 0 7000 14000
SCALE IN FEET

FIGURE 3-2

BLOUNT COUNTY
ENVIRONMENTAL IMPACT STATEMENT
BLOUNT COUNTY, TENNESSEE

THE NO-FEDERAL ACTION
ALTERNATIVE

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV ATLANTA, GEORGIA

51<

apartments, townhouses or hotels--will be built using package treatment systems. The economics of these developments are more likely to support package plant costs and the large, concentrated volume of wastewater produced by such projects is often beyond the capacity of typical soil absorption systems. In many cases such large developments would require disposal systems larger than lot sizes or terrain limitations allow.

Under this alternative, a small community wastewater system may be appropriate for the city of Townsend. The presumption is that with development pressure, some sort of sewer system may need to be installed to allow developers to construct high density projects. The State of Tennessee Department of Public Health probably will not allow treated wastewater to be discharged to the Little River; therefore, costs for slow rate land disposal of wastewater at Townsend are included in this alternative.

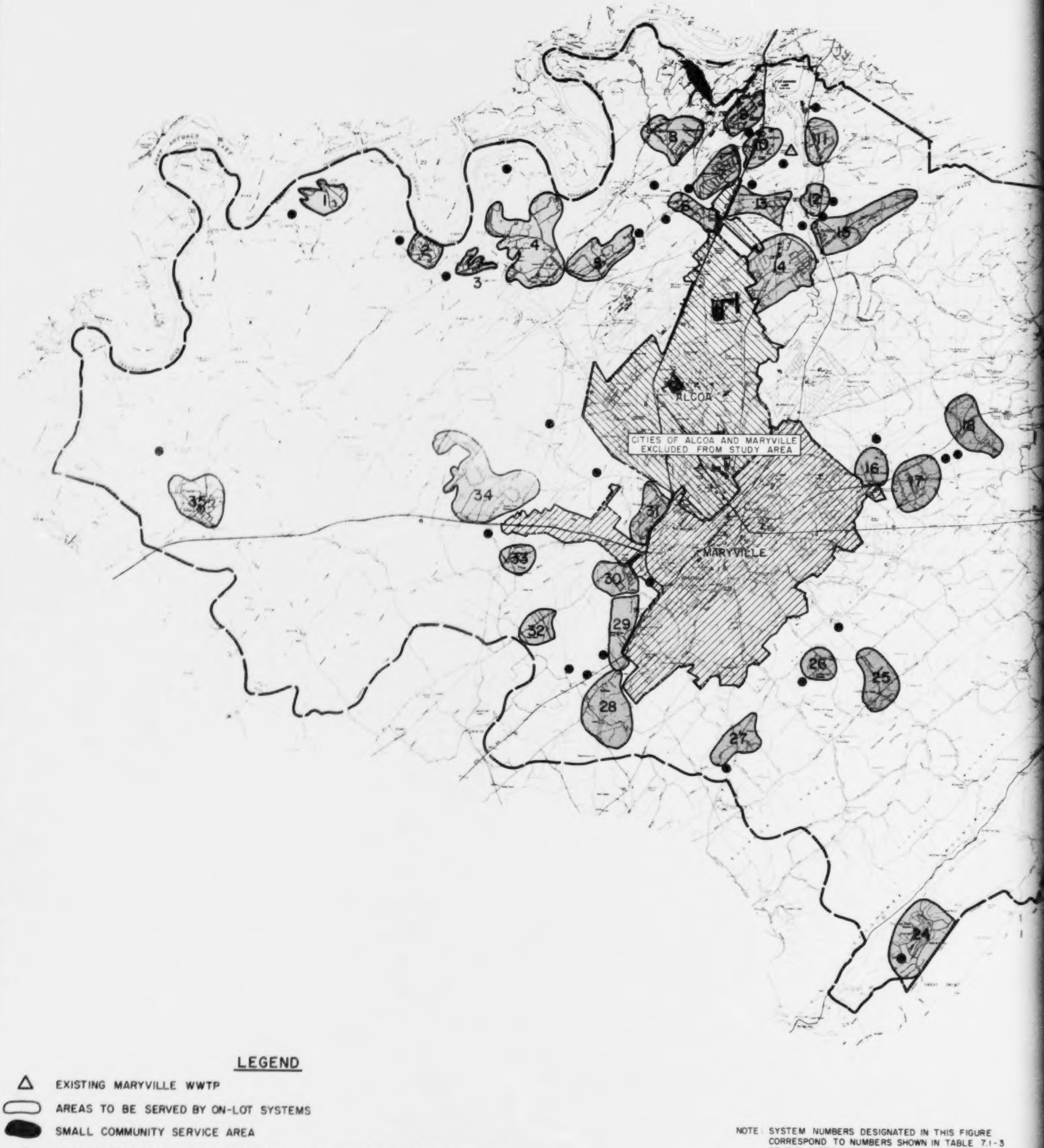
b. The On-Lot Systems Alternative

This alternative is comprised of three components. First is the EPA-funded renovation of existing on-lot systems in the study area which are presently malfunctioning or failing. Based on the study of on-lot failures by the EPA's Environmental Photographic Interpretation Center (EPIC), year-round malfunctioning or failing systems make up about 15% of all present systems. The second component is the non-federally funded development of on-lot systems to accommodate the wastewater needs of new development in all parts of the study area. The third component is a small community system with land application at Townsend.

c. Small Community Systems Alternative

This alternative would consist of 35 individual, EPA-funded small community systems in the areas indicated on Figure 3-3. A variety of options for collection, treatment and disposal were considered including gravity sewers, pressure sewers, extended aeration, extended aeration plus filtration, surface discharge and land application. For costing purposes,

11


8
9
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11
13
12
15
1
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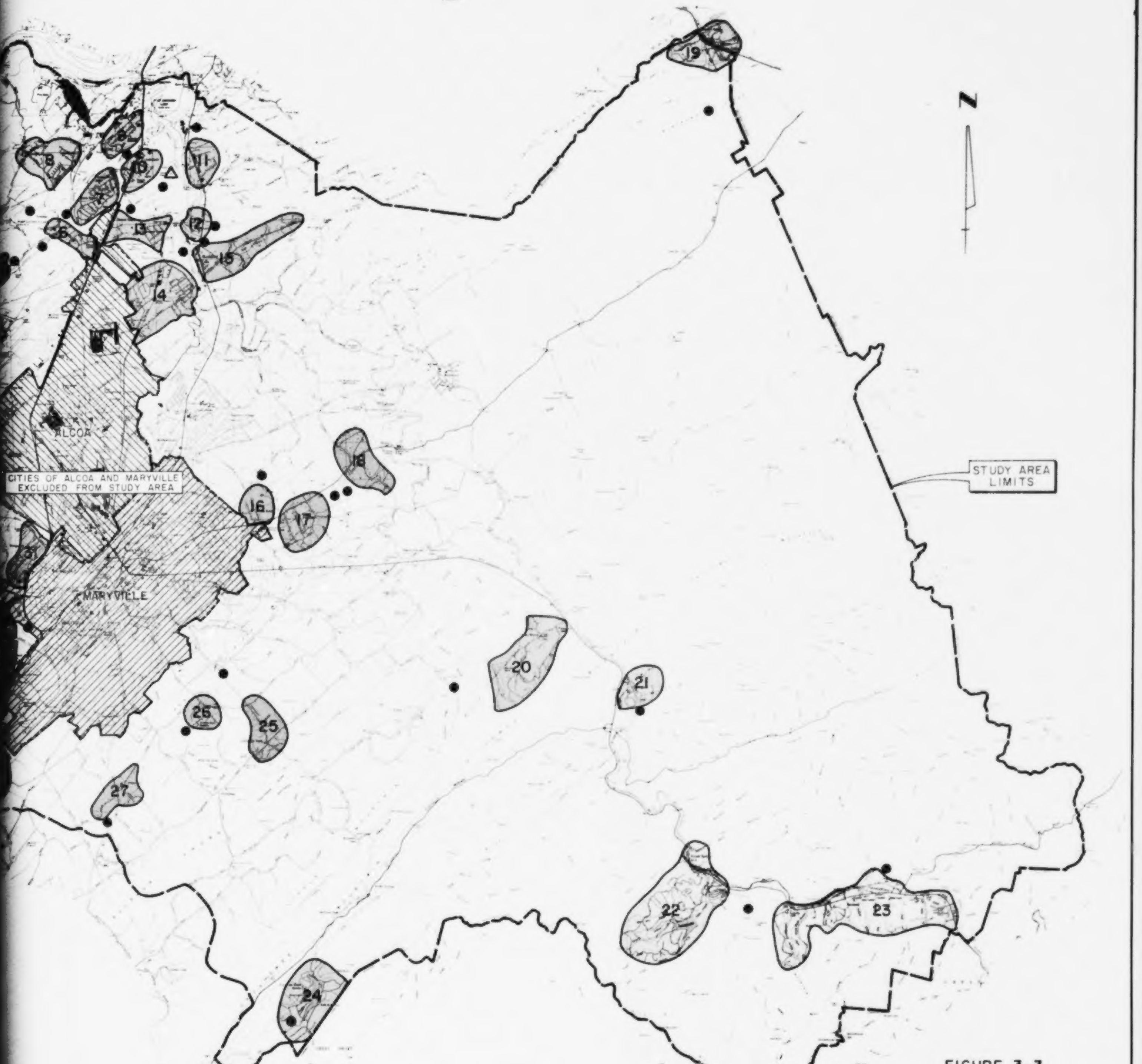
6
7
2
3
5
14
ALCOA
CITIES OF ALCOA AND MARYVILLE EXCLUDED FROM STUDY AREA
18
16
17
35
34
31
33
MARYVILLE
30
32
29
26
25
28
27
24

LEGEND

△	EXISTING MARYVILLE WWTP
⬭	AREAS TO BE SERVED BY ON-LOT SYSTEMS
⬬	SMALL COMMUNITY SERVICE AREA
●	PREFERRED DISPOSAL SITE BASED ON SOIL CHARACTERISTICS AND LAND USE

NOTE: SYSTEM NUMBERS DESIGNATED IN THIS FIGURE CORRESPOND TO NUMBERS SHOWN IN TABLE 7.1-3 OF THE ALTERNATIVES DEVELOPMENT TECHNICAL REFERENCE DOCUMENT.

B



19
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ALCOA
CITIES OF ALCOA AND MARYVILLE EXCLUDED FROM STUDY AREA
18
16
17
STUDY AREA LIMITS
MARYVILLE
20
21
26
25
27
22
23
24

FIGURE 3-3

BLOUNT COUNTY
ENVIRONMENTAL IMPACT STATEMENT
BLOUNT COUNTY, TENNESSEE

POSSIBLE LOCATIONS FOR SMALL COMMUNITY SYSTEMS

7000 0 7000 14000
SCALE IN FEET

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV ATLANTA, GEORGIA

NOTE: SYSTEM NUMBERS DESIGNATED IN THIS FIGURE CORRESPOND TO NUMBERS SHOWN IN TABLE 7.1-3 OF THE ALTERNATIVES DEVELOPMENT TECHNICAL REFERENCE DOCUMENT.

the lease expensive combination of options was selected--small diameter gravity sewers, extended aeration treatment plus filtration and disposal of effluent to surface waters. In other parts of the study area not served by small community systems, locally funded on-lot systems would be used for treatment and disposal of wastewater.

d. The Suburban Maryville-Alcoa Alternative

This alternative would provide EPA-funded interceptor sewers to the areas north and west of Alcoa and southwest of Maryville (See Figure 3-4). Other areas proposed for sewer extensions under no federal action would be locally funded as would a small community system in Townsend and on-lot systems in the remaining portions of the study area.

e. The Limited 201 Alternative

This alternative would provide EPA-funded interceptors to extensive service areas throughout the study area as shown on Figure 3-5. The remaining portions of the study area would be served by on-lot systems not supported by EPA funds.

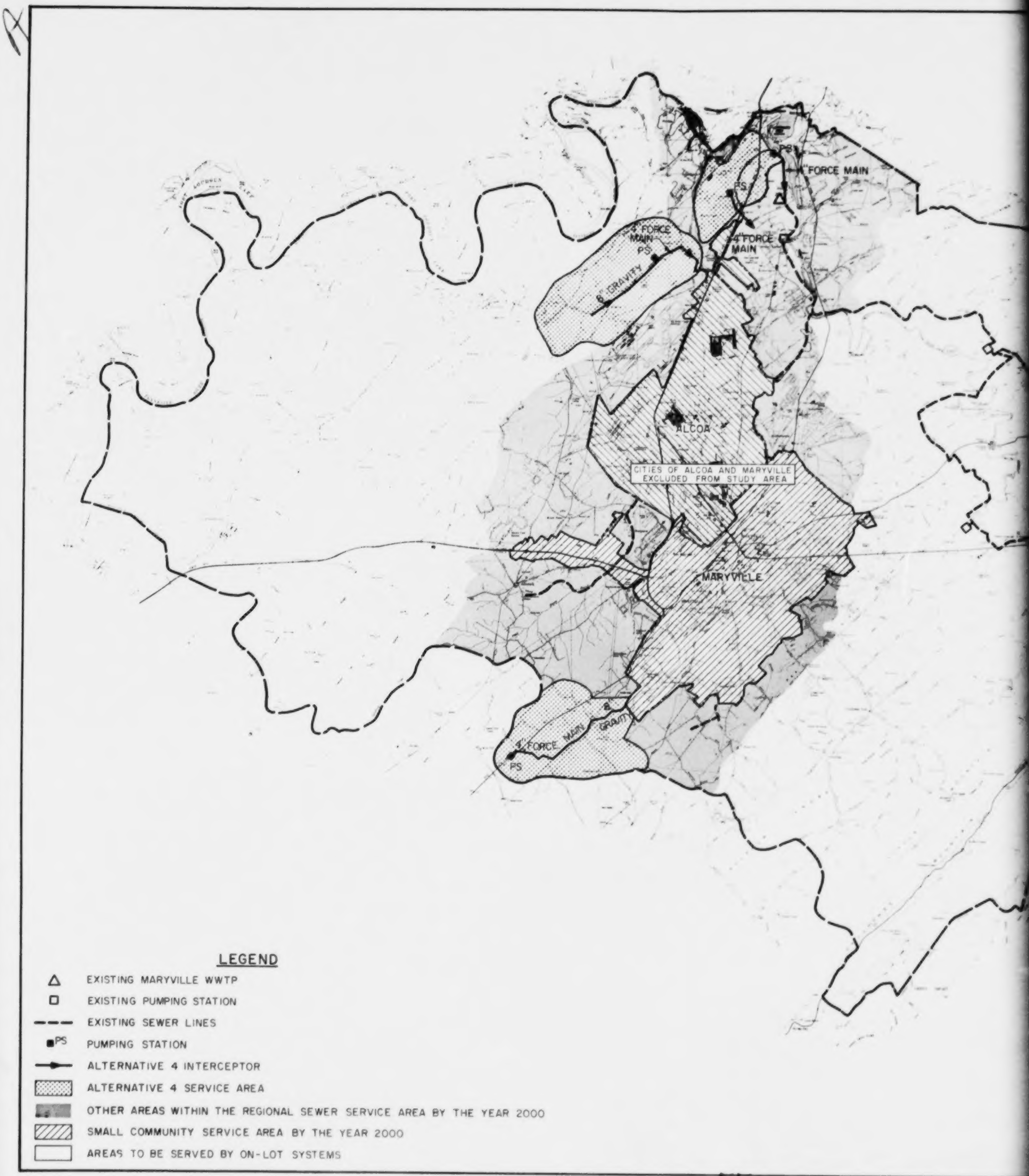
f. Full 201 Alternative

This alternative includes all of the federally-fundable facilities included within the Blount County 201 Wastewater Facilities Plan as shown on Figure 3-6. The remaining portions of the study area would be served by on-lot systems not supported by EPA funds.

2. Nonstructural Measures

a. Water Conservation and Other Flow Reduction Measures

Within Blount County, occasional water shortages have occurred during dry periods such as the summer of 1979. Nearly the entire study area depends upon the Little River as its sole water supply source and flows during dry periods may not be able to support higher water demands


FORT LOUDOUN LAKE
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FORCE MAIN
PS
4" FORCE MAIN
4" FORCE MAIN
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8" GRAVITY
ALCOA
CITIES OF ALCOA AND MARYVILLE EXCLUDED FROM STUDY AREA
MARYVILLE
8" GRAVITY
4" FORCE MAIN
PS
LEGEND
EXISTING MARYVILLE WWTP
EXISTING PUMPING STATION
EXISTING SEWER LINES
PS PUMPING STATION
ALTERNATIVE 4 INTERCEPTOR
ALTERNATIVE 4 SERVICE AREA
OTHER AREAS WITHIN THE REGIONAL SEWER SERVICE AREA BY THE YEAR 2000
SMALL COMMUNITY SERVICE AREA BY THE YEAR 2000
AREAS TO BE SERVED BY ON-LOT SYSTEMS

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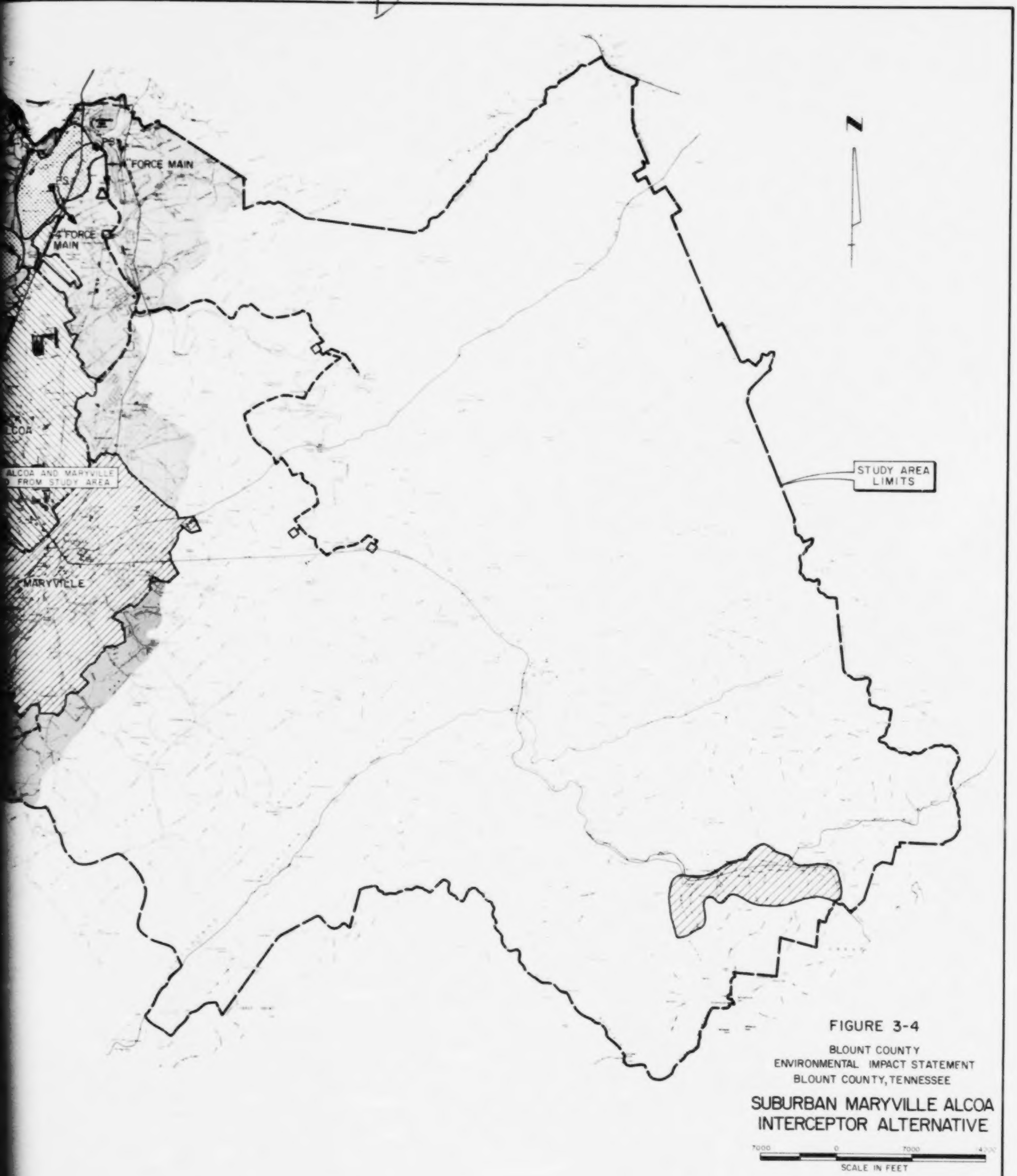
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P.S.
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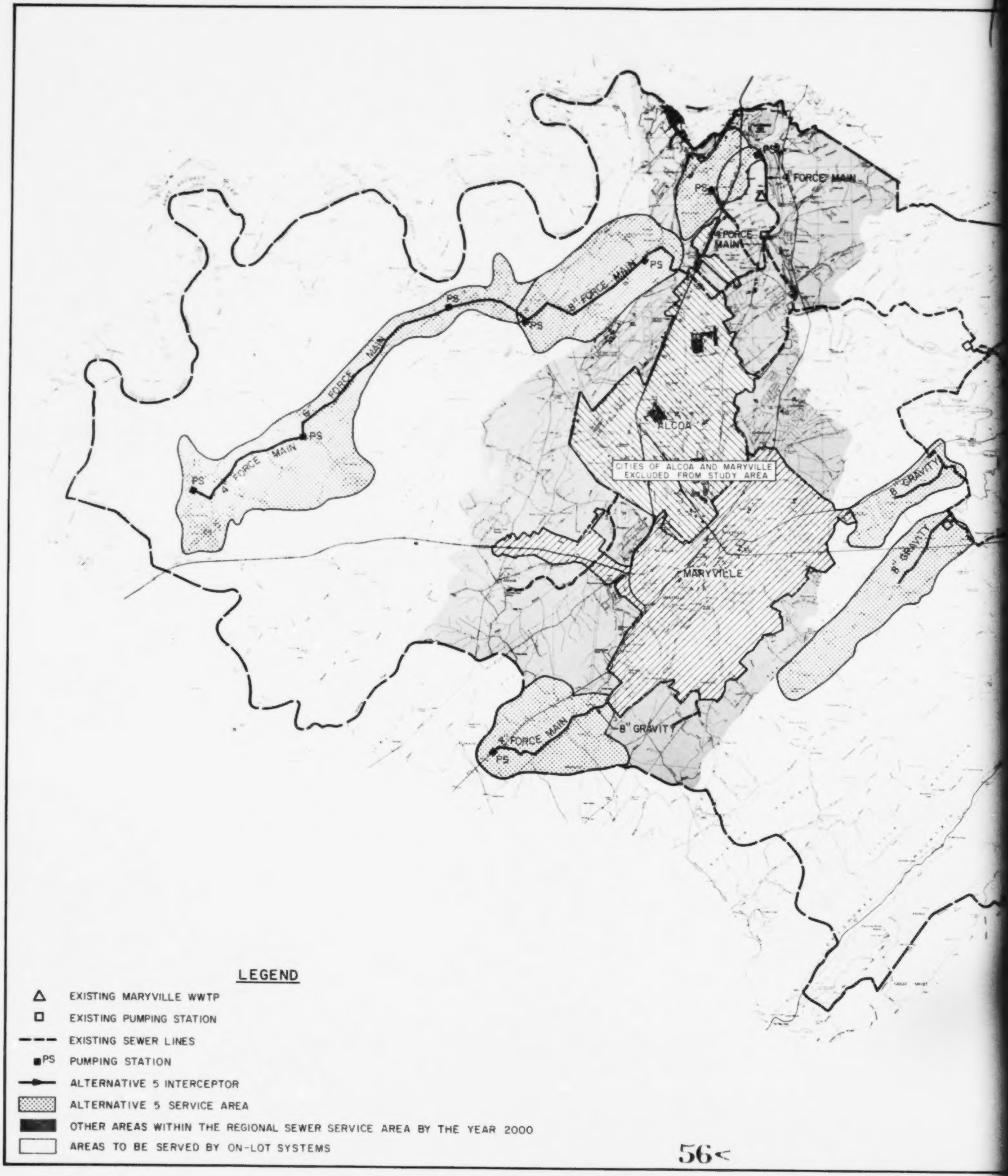
MAIN
ALCOA
ALCOA AND MARYVILLE
FROM STUDY AREA
MARYVILLE
STUDY AREA
LIMITS
7000
0
7000
14000
SCALE IN FEET

FIGURE 3-4

BLOUNT COUNTY
ENVIRONMENTAL IMPACT STATEMENT
BLOUNT COUNTY, TENNESSEE

SUBURBAN MARYVILLE ALCOA INTERCEPTOR ALTERNATIVE

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV ATLANTA, GEORGIA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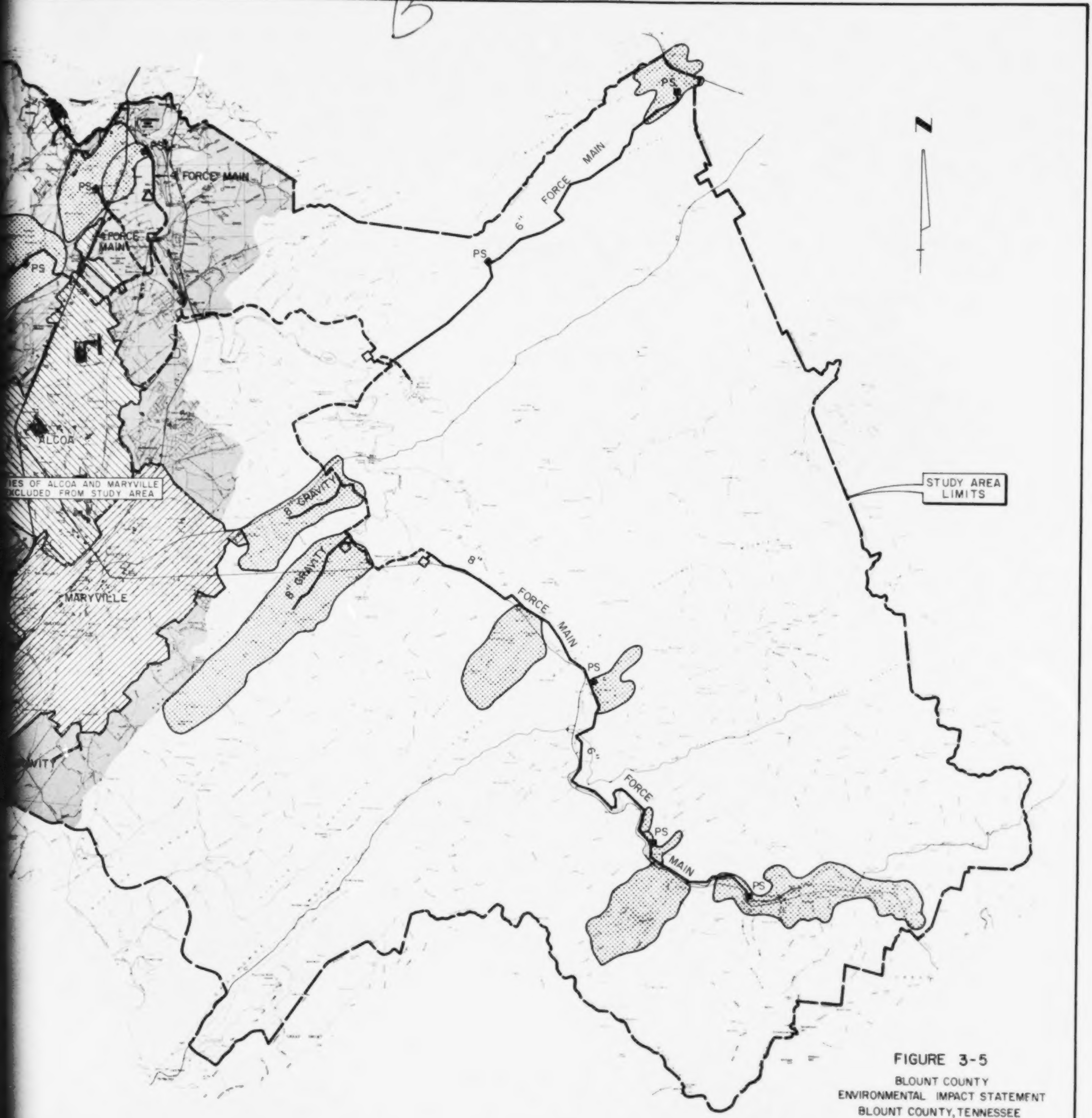
4" FORCE MAIN
ALCOA
CITIES OF ALCOA AND MARYVILLE
EXCLUDED FROM STUDY AREA
MARYVILLE
8" GRAVITY
8" GRAVITY
8" GRAVITY
4" FORCE MAIN
PS
LEGEND
△ EXISTING MARYVILLE WWTP
□ EXISTING PUMPING STATION
EXISTING SEWER LINES
■PS PUMPING STATION
ALTERNATIVE 5 INTERCEPTOR
ALTERNATIVE 5 SERVICE AREA
OTHER AREAS WITHIN THE REGIONAL SEWER SERVICE AREA BY THE YEAR 2000
AREAS TO BE SERVED BY ON-LOT SYSTEMS

B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6" FORCE MAIN
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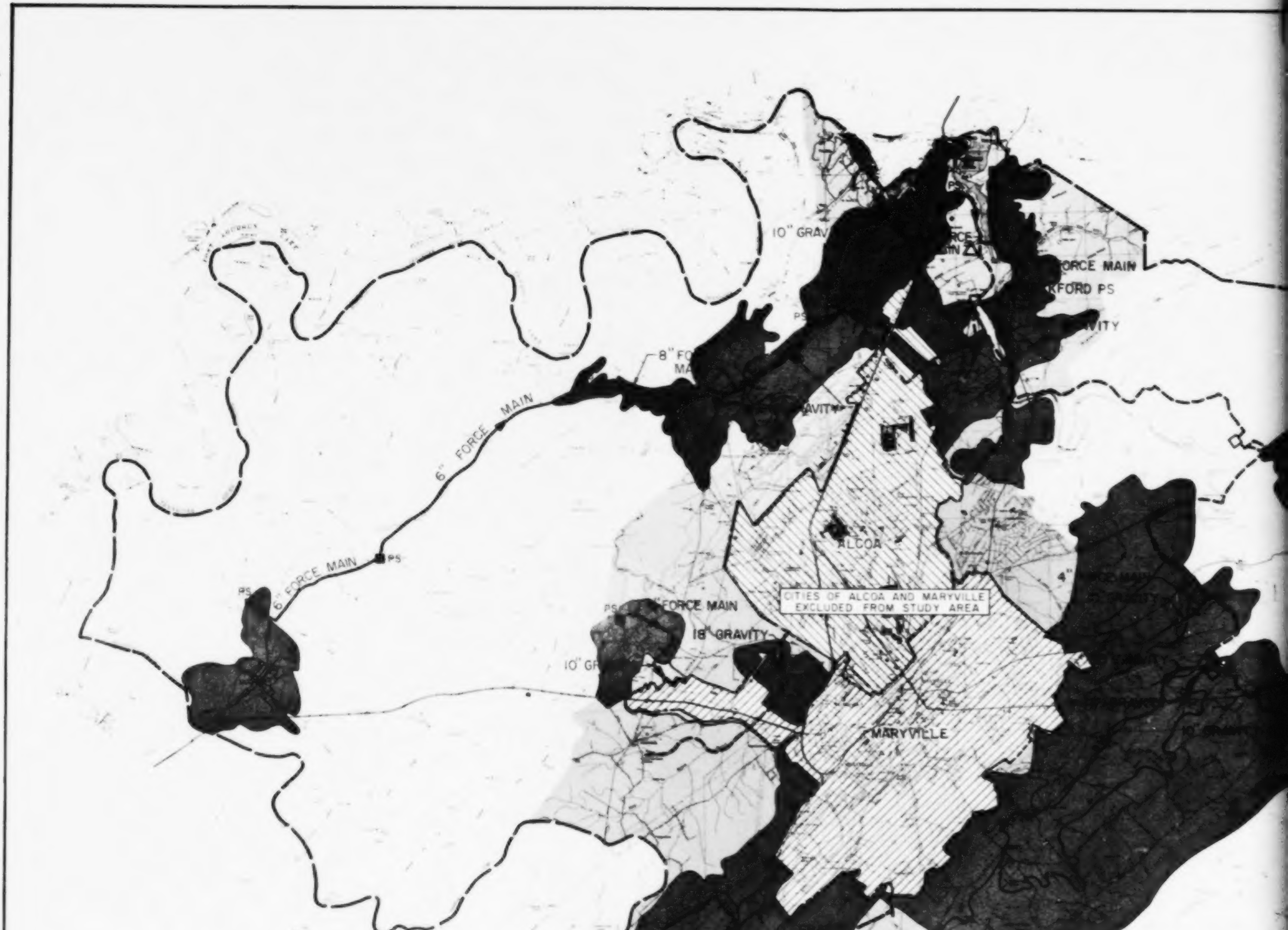
ALCOA
IES OF ALCOA AND MARYVILLE
EXCLUDED FROM STUDY AREA
STUDY AREA LIMITS
8" GRAVITY
8" GRAVITY
MARYVILLE
8" FORCE MAIN
PS
6" FORCE MAIN
PS
PS
GRAVITY
7000 0 7000 14000
SCALE IN FEET

FIGURE 3-5

BLOUNT COUNTY
ENVIRONMENTAL IMPACT STATEMENT
BLOUNT COUNTY, TENNESSEE

LIMITED 201
ALTERNATIVE

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV ATLANTA, GEORGIA


10" GRAVITY
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GRAVITY
6" FORCE MAIN
6" FORCE MAIN
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ALCOA
CITIES OF ALCOA AND MARYVILLE EXCLUDED FROM STUDY AREA
FORCE MAIN
18" GRAVITY
10" GR
MARYVILLE
FORCE MAIN
LEGEND
△ EXISTING MARYVILLE REGIONAL WWTP
□ EXISTING PUMPING STATION
--- EXISTING SEWER LINES
OTHER AREAS WITHIN THE REGIONAL SEWER SERVICE AREA BY THE YEAR 2000
SERVICE AREA
■PS GRANT-ELIGIBLE, PROPOSED PUMPING STATION
GRANT-ELIGIBLE, PROPOSED INTERCEPTOR OR FORCE MAIN

B

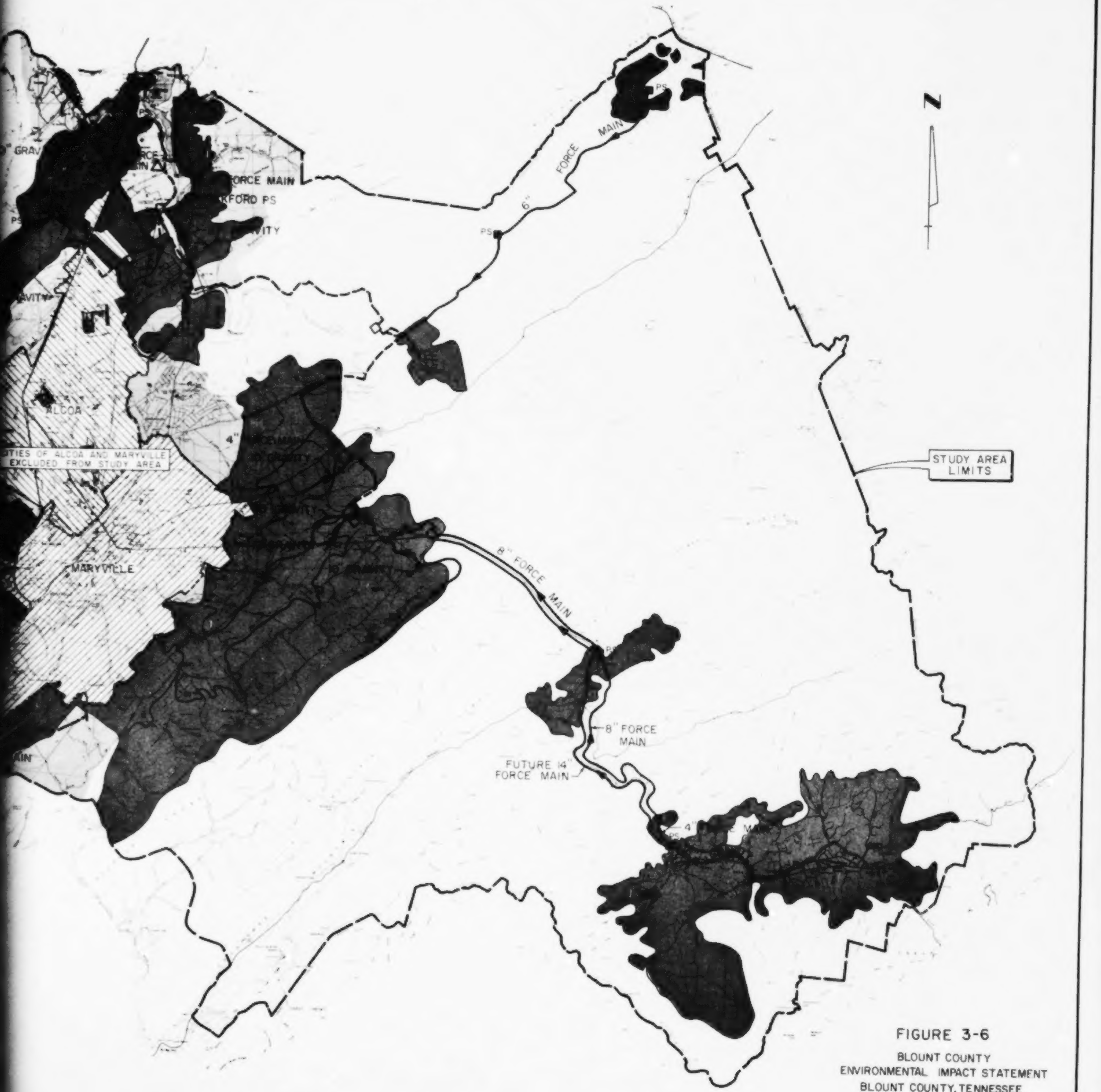
N
6" FORCE MAIN
PS
FORCE MAIN
KFORD PS
GRAVITY
ALCOA
CITIES OF ALCOA AND MARYVILLE EXCLUDED FROM STUDY AREA
MARYVILLE
4"
STUDY AREA LIMITS
8" FORCE MAIN
PS
8" FORCE MAIN
FUTURE 14" FORCE MAIN
4" FORCE MAIN

FIGURE 3-6

BLOUNT COUNTY
ENVIRONMENTAL IMPACT STATEMENT
BLOUNT COUNTY, TENNESSEE

THE FULL 201 ALTERNATIVE

7000 0 7000 14000
SCALE IN FEET

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV ATLANTA, GEORGIA

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projected for the future. Water conservation is one method which can help reduce this potential for future water shortages.

The six interdependent water supply systems servicing the study area could implement and enforce plumbing codes which could reduce water usage at toilets, shower heads and faucets within all newly constructed or renovated buildings.

Voluntary water conservation combined with public information is another measure. However, response to such efforts has been effective in other parts of the eastern United States for only short time periods.

Adjusting water rates is a third water conservation technique, assuming water use will decline as the price for water increases. The MUB increased water rates by 20 percent in September of 1980. This increase did not have reduction in water usage as one of its objectives. A concern of any water department with reducing water usage is that revenues could also decline. This water conservation technique has not been widely accepted as one that is effective, preferable or equitable to all water users.

b. Wastewater Management Districts

Currently in Blount County, septic tank-disposal systems at individual homes and businesses are designed, permitted and inspected by the Blount County Health Department. Following installation, the health department assumes no responsibility unless a malfunction is reported. Small community systems are designed, implemented and maintained by the developer of a subdivision while the Tennessee Department of Public Health, Division of Water Quality Control, issues a discharge permit and oversees compliance with permit requirements.

Another institutional structure for managing on-lot and/or small community wastewater systems is to either establish a separate management agency or expand the responsibilities and funds allocated to the County Health Department. The purpose of such an agency would be to manage all aspects of implementing small systems: planning, design, installation, operation, maintenance, monitoring and financing. For the large number of small wastewater systems that could remain in operation, such a management agency by itself could handle these small systems, while the MUB and the cities of Alcoa and Maryville manage the regional sewer system.

c. Optimum Use of Wastewater Facilities

The EPA continues to strive for improved operation and maintenance at treatment plants and throughout wastewater collection systems. These activities, with the exception of infiltration/inflow rehabilitation are not eligible for EPA construction grant funds. However, implementation of every effort not related to grants is encouraged. Such efforts include:

- Rehabilitation of sections of sewer lines estimated to be cost effective to reduce infiltration/inflow rather than to treat supplemental flows at the regional plant.
- Periodic inspection of sewer lines for excessive pipe corrosion.
- Adequate training and certification of all treatment plant operators for the regional wastewater treatment plant and for small community treatment systems.
- Periodic inspection of on-lot systems by trained personnel that can remedy failing of stressed systems.

d. Land Use and Development Controls

Land use controls which provide for planned development may limit potential adverse impacts on water quality (and other environmental amenities) from uncontrolled growth. Limiting the density of development or preventing development within unique agricultural lands are specific applications of this type of control.

In order to effectively plan and manage land use there are a variety of land management tools and techniques that are available to the local governments in the study area. These techniques include:

- Comprehensive plans
- Zoning ordinances
- Subdivision and land development regulations
- Easements
- Fee simple acquisition of land
- Staged growth policies
- Conservation zoning district
- Model zoning ordinance
- Transfer of development rights.

PART C- AFFECTED ENVIRONMENT

1. Population and Land Use

The study area for this EIS encompasses the northern 2/3 of Blount County with the exclusion of Maryville and Alcoa and unpopulated areas contained within the Smoky Mountains National Park. The 1980 permanent population for the study area was 29,950. This is projected to increase to a total of 35,780 in the year 2000. Population in the study area was disaggregated into 44 districts based mainly on drainage patterns but also reflecting political boundaries. Table III-2 presents the present and projected populations for these districts.

In addition to the permanent residential population, a projection was also made for the number of overnight accommodations (motel rooms and campsites) to exist in Townsend by the year 2000. This analysis concluded that in 2000 there will be about 1,500 overnight accommodations in Townsend. During peak tourist periods, the accommodations can be assumed to be filled to capacity with three persons per accommodation. The projection methodologies, together with comment letters from the Blount County Planning Commission (BCPC) and the East Tennessee Development District (ETDD) can be found in Appendix A of the Draft EIS.

Existing land use information for Blount County was based on the land use plan developed in 1976 by the BCPC and information developed by EPA's EPIC based on interpretation of 1980 aerial photography. Land use within

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TABLE III-2

PRESENT AND PROJECTED PERMANENT POPULATION FOR BLOUNT COUNTY DISTRICTS

DISTRICT	1980	1985	1990	1995	2000
A	59	61	61	62	64
B	200	211	223	235	247
C	689	808	819	830	838
D	166	175	181	189	196
E	151	158	164	170	176
1	883	919	952	989	1,020
1A	764	782	793	801	801
2	739	767	794	820	847
3	98	100	100	101	102
4A	1,110	1,290	1,430	1,530	1,590
4B	322	337	350	363	376
4C	657	687	707	722	731
4D	689	800	888	949	987
5	824	900	962	1,000	1,020
6	1,100	1,140	1,160	1,140	1,100
9A	3,360	3,800	4,130	4,340	4,430
9B	1,290	1,460	1,600	1,700	1,760
9C	3,910	3,980	3,970	3,930	3,820
10A	520	539	555	566	573
10B	127	128	128	130	131
11	174	174	172	172	172
12	41	40	38	38	37
13	129	138	145	152	160
14	10	10	10	10	10
17	178	196	221	242	264
18	660	888	902	912	925
18A	102	105	105	107	109
19	145	161	177	195	211
20	66	67	67	68	69
21	118	121	121	124	127
22	8	8	7	7	7
23	210	216	216	222	228
24	189	194	194	197	201
25A	1,420	1,500	1,560	1,620	1,660
25B	635	666	696	725	758
26	763	799	838	876	915
27	134	134	131	131	129
28	268	280	292	304	316
29	634	662	689	716	743
30	1,800	1,940	2,070	2,180	2,270
31A	1,770	1,900	2,010	2,090	2,160
31B	1,920	2,090	2,220	2,330	2,410
31C	790	827	861	896	931
31D	129	142	153	167	178
EIS STUDY AREA TOTAL	29,950	32,300	33,870	35,040	35,780

the study area is primarily agricultural and open space with small amounts of residential land use following roads and clustered next to Alcoa and Maryville. Some commercial land is concentrated in the small towns. Most of the more intensive, urbanized development is contained within Alcoa and Maryville which are outside of the study area. Table III-3 presents data on land use within the County based on a visual inspection performed in 1975. As that data shows, nearly half of the single-family dwellings, most of the multifamily residential and nearly 2/3 of the commercial and service establishments were located in Maryville and Alcoa.

The concept for future land use provided for by the County Planning Commission calls for a nucleus of development in Alcoa/Maryville containing most commercial and industrial employment and the bulk of high density residential development. This area would be surrounded by open space and agricultural lands and a number of rural residential "satellite" development areas. These areas would include large lot residential development at a minimum one acre lot size. Compatible agricultural use and open space would be encouraged in these areas while commercial development would be concentrated in existing incorporated towns and small rural centers such as Townsend, Friendsville, Wildwood and Shooks Gap.

2. Surface Water Resources

Information gathered by the Tennessee Division of Water Quality Control (TWQC) and the special sampling study done as part of this EIS both indicate water quality conditions to be good in Blount County. Water conditions at all of the sampling sites were within state and federal standards for dissolved oxygen, pH and temperature, though temperatures at most sites were above the state limits for trout streams.

Of primary concern in the County is the water quality of the Little River. This importance is based on the fact that the Little River is a significant natural feature and the source of water supply for almost the entire County. The Little River begins in the Great Smoky Mountains National Park and flows through Blount County from the Townsend area to the northeast part of Alcoa where it joins the Tennessee River. The TWQC has

TABLE III-3

EXISTING LAND USE DATA 1975
BLOUNT COUNTY, TENNESSEE

USE CATEGORY	FREQUENCY OF LAND USE BASED ON ON-SITE VISUAL INSPECTION						
	ALCOA-MARYVILLE	BINFIELD DIVISION	FRIENDSVILLE DIVISION	LANIER DIVISION	TOWNSEND DIVISION	WILDWOOD DIVISION	COUNTY TOTAL
Single Family Residence	6,436	1,097	1,435	1,560	1,367	1,388	13,283
Multi-Family Residence	85	2	--	--	1	2	90
Mobile Home	1,204	125	206	220	257	170	2,182
Commercial & Service	221	44	21	33	45	24	388
Recreational Commercial	6	2	--	2	11	1	22
Industrial & Manufacturing	18	4	6	7	4	--	39
Resource Extraction	2	--	7	--	--	--	9
Public and Institutional	111	16	38	50	51	35	301
Transportation, Communication, & Utilities	19	1	3	1	6	4	34
TOTAL	8,102	1,291	1,716	1,873	1,742	1,624	16,348

SOURCE: Tennessee State Planning Office, Blount County Land Use Survey, 1975.

not allowed any surface water discharges into the Little River because of its current pristine condition, its importance as a water supply resource and its recreational value.

Most of the tributaries to the Little River are also free of surface discharges although the TWQC did approve a discharge on Nails Creek for a package plant. The water quality in these creeks is generally good with the exception of some problems caused by agricultural runoff.

Some malfunctioning on-lot disposal systems have been identified within the study area based on an aerial photo interpretation study conducted by EPA's EPIC. In determining the existence and extent of these failures, EPIC differentiated surface failures and seasonal failures. Surface failures were characterized by unusually lush growth of vegetation above subsurface drainage fields and by one or more dark spots on aerial photos where vegetation had been killed. The presumption was that the vegetation had died due to overabundance of moisture from surfacing wastewater effluent. In properly operating on-lot systems, wastewater will percolate downward through the absorption field rather than rising to the surface. Seasonal failures were characterized by unusually lush vegetation growth and signs that effluent would rise to the soil surface during wet periods.

Many of the malfunctions identified were of the seasonal type and would probably only result in occasional high soil moisture levels. The surface failures, however, could result in odors, plumbing back-ups and other problems. At this time though, no significant water quality impact or associated environmental problems were seen to result from these failures or any other source.

3. Groundwater Resources

Groundwater occurrence in Blount County shows distinct difference between the Blue Ridge and the Valley and Ridge physiographic provinces. Wells in the poorly permeable rocks of the Blue Ridge Province yield only

64<

a few gallons per minute, primarily from fractures. Only in the large, alluvium-filled stream valleys can moderate groundwater development occur. Many small springs with low discharges are found.

In the Valley and Ridge Province, groundwater is generally abundant. It is found in solution channels in the calcareous rocks. Water supplies can be developed if water-bearing zones are delineated or if wells are located in topographic lows near permanent streams. Springs are also a major source of groundwater in this part of the County, some yielding large quantities of water, frequently estimated at more than 500 gallons per minute (GPM).

Groundwater accounts for approximately 4.5 percent of the water withdrawn for municipal, industrial and irrigational uses in Blount County. In all, about 89,000 gallons are withdrawn daily by 24 inventoried users. There are no major groundwater users within the study area.

The quality of groundwater in Blount County is generally good. According to water quality data gathered around 1950, the primary problem was hardness. Hardness as $CaCo_3$ ranged from less than 50 to more than 350 mg/l in the Cambrian and Ordovician carbonate aquifers. Conversations with staff members at the Blount County Health Department, the Tennessee Department of Public Health and the Department of Conservation yielded no more recent data. There are no federal, state or local groundwater quality monitoring programs in the Blount County area.

Discussion with local health department officials has indicated that some private drinking water wells have had problems with coliform bacteria. It has not been determined whether these problems result from wastewater disposal fields, either on the same property or any adjacent properties. In some cases, the problem is thought to be a result of agricultural activities.

4. Biological Resources

The location and extent of existing vegetation in Blount County is largely determined by the physiography of the landscape with its resultant influences on land use. The predominantly lowland Ridge and Valley section covering the north, central and western parts of the study area has been largely cleared of forests due to the abundance of level lands suitable for agriculture. In contrast, the rugged topography of Chilhowee Mountain and the Smoky Mountains in the southeastern part of the study area has resulted in the perpetuation of forests.

The vegetation communities are recognized in the study area, based on a review of vegetation studies in the Smoky Mountains (Whittaker 1956; Stupka 1960), Chilhowee Mountain (Thomas 1966) and the Ridge and Valley province (Martin 1971). These communities include five forest types (oak, cove hardwoods, hemlock/white pine, riparian and pine) and two herb or shrub dominated communities (fields and freshwater marshes).

The Blount County region contains 68 species of plants which are listed as endangered, threatened, special concern or possibly extirpated. These species are monitored by the Tennessee Heritage Program, (THP) but are not afforded any legal protection under existing state or federal laws. Appendix B of the Draft EIS lists the monitored plants known from the Blount County region, including information on their status and occurrence.

The occurrences of monitored plants appear to be largely or entirely restricted to the mountain region in the southeastern part of the study area. Within the mountain region, monitored species tend to cluster in definite patterns. For instance, eight known locations of monitored plants are found on Chilhowee Mountain; an additional eight locations are clustered within a small area near tributaries of the Little River within the Great Smoky Mountains National Park; another, less pronounced, aggregation occurs at Rich Mountain Gap near the Great Smoky Mountains National Park boundary.

66<

The wildlife resources of Blount County are still quite abundant and varied. Many animals have adapted well to man's presence and some species have actually benefitted. For instance, deer were apparently quite rare when the area was still densely forested, but are now relatively abundant due to the intermixing of forests and fields (Linzey & Linzey 1971). The present richness of wildlife in Blount County is also greatly enhanced by the proximity of the area to the Great Smoky Mountains National Park. The Smokies have undoubtedly served as a refuge for many species of animals which otherwise may have been extirpated or eliminated. In the undeveloped mountainous regions of the study area, the fauna is certain to closely resemble the rich variety and abundance found in the Smokies.

The Blount County region contains a number of terrestrial animal species which are protected or monitored by government agencies. A list of these animals, including information on habitats, status and occurrences is also presented in Appendix B of the Draft EIS. This list includes two amphibians, five reptiles, 20 birds and 18 mammals.

The kind and type of aquatic communities that can be expected in the Blount County EIS study area are dependent mostly on the quality of the water and abundance of selected habitat. In general, the Little River drainage shows a wide range in environmental conditions. The quality of the aquatic communities in this system is indicated by the variety of clean water species. This system supports a large number of fish and aquatic insect groups due to the abundance of microhabitat and food sources. For example, in one area within a river distance of 1/2 mile, approximatley 15 species of the darter family (percidae) have been found to occur (Dickinson pers. comm.). This fish family is noted for its speciesspecific microhabitat selection. That is, certain species prefer quiet backwaters while others prefer swift currents while still others have different rock size preferences or live in submerged aquatic vegetation beds. The Little River possesses all of these aquatic microhabitats.

The upper parts of this river also support a sizeable trout fishery. From personal contacts with University of Tennessee biologists, it is thought that trout do reproduce in the Park area extending into the

Townsend area and tributaries. However, the Tennessee Fish and Game Department does stock trout in the river.

Five aquatic species of concern have been cited by USFWS as possibly being in the study area. The Fine-rayed pigtow pearly mussel (Fusconia cuneoulus) is currently listed as endangered and has recently been found near the Maryville treatment plant. The spotfin chub (Hybopsis manocha), listed as threatened, is only known from Abrams Creek in the south portion of the County which is outside the study area. The spiny river snail (Io fluvialis), the mainstream river snail (Leptoxis praerosa) and the Verrucose river snail (Io verrucosa verrucosa were formerly proposed for endangered status but are not currently under formal consideration.

In addition, five darter species are being considered for proposal: Ashy darter (Ertheostoma cinereum), Duskytail darter (E. catonotus), Blotchside darter (Percina burtoni), Tangerine darter (P. aurantiaca), Longhead darter (P. macrocephala). All five of these species are known to inhabit the Little River. Many of the records show that these populations are the healthiest and largest for each species for the state of Tennessee and the U. S. The distribution of some of these species covers the entire course of the Little River (e.g. Tangerine and Blotchside darters.

5. Community Services and Facilities

Growth and development served by sewer service expansion has the potential to cause a need for increased public facilities, such as fire and police protection; transportation facilities; health, education, library and administration facilities and utilities. The maintenance of existing service levels in these areas could require additional taxes to pay for needed improvements. Currently, Blount County public facilities and services are for the most part adequately meeting public needs.

6. Economics and Employment

Large employers in Blount County include the Aluminum Company of America (ALCOA), Schlegel-Tennessee, Inc. (rubber), Levi Strauss & Company

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(clothes) and Rockford Manufacturing Company (cordage and yarn). ALCOA, the largest employer, has three plants all located within a 10 mile radius within the Alcoa city limits.

There are three industrial parks in Blount County. Only the Littlebrook Industrial Park is located in the study area, just northeast of the Alcoa city limits. The other two, the Blount County Industrial Park and the Metro-Air Commercial and Industrial Park, are located within the Maryville and Alcoa city limits, respectively.

Recreational activity in Blount County generates a significant economic impact on the study area. Since 1971, the Great Smoky Mountains National Park has attracted between 7 and 9 million visitors per year. In 1975, the National Park Service recorded over 8 million visitors, 14 percent of whom used the Townsend park entrance in the study area. The Townsend/ Tuckaleechee Cove area depends heavily upon tourism for its support (National Park Service 1979). Tourist expenditures contribute to making the recreation industry an important facet of the County economic base.

In 1975, tourist expenditures totaled approximately $159,000,000 by an estimated 1,454,000 people staying an average of 5.5 days in the Smoky Mountains National Park region (National Park Service, 1979). Blount County had the second highest level of tourist expenditures of the Tennessee counties in 1975. Studies conducted by the National Park Service in 1974 and 1975 reflect the importance of park visitor expenditures to the economy of the surrounding park region including the study area.

7. Environmentally Significant Agricultural Lands

Within the Blount County study area there are extensive areas of environmentally significant agricultural lands. These lands are mapped in the Draft EIS on Figure 3-5. The criteria used in selecting these lands is largely based upon soils categories developed by the U. S. Soil Conservation Service but also includes other categories of agricultural land considered significant by EPA. A more detailed description of the criteria is given in Appendix C of the Draft EIS.

8. Archaeological and Historical Resources

The local archaeology of Blount County, Tennessee has received little professional attention and, as a result, is poorly defined. The Tennessee Division of Archaeology, located in Nashville, has identified and recorded relatively few sites in Blount County. These sites were identified by a number of different individuals and agencies and do not include a complete representation of the cultural development of the study area. More details on the information that does currently exist is located in Appendix D of the Draft EIS.

9. Odor

No major odor problems exist in the study area. What problems there are, are basically due to localized malfunctions of on-site sewage disposal systems. This would occur more frequently in rural areas where on-site sewage disposal is used more extensively than in more urbanized areas. There are documented cases in the study area of localized odor problems due to malfunctioning disposal systems. These, however, have been minor occurrences.

Another potential cause of odor problems in the study area is roadside dumping of solid waste. Despite widespread occurrence of this problem, no major odor complaints have been received. Roadside dumping tends to be more an aesthetic problem and a possible health hazard rather than a cause of odor problems.

PART D - EVALUATION OF THE ALTERNATIVES

1. The No Federal Action

a. Cost

The net present worth for this alternative is lowest of the alternatives at $8.2 million. The local annual cost of about $1.2 million is also lowest of any alternative. Costs for this and all other alternatives are summarized on Table III-4.

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TABLE III-4

COMPARISON OF ESTIMATED COSTS FOR THE SIX WASTEWATER MANAGEMENT ALTERNATIVES IN THE BLOUNT COUNTY, TENNESSEE EIS

		Net Present Worth	Local Annual Costs with EPA Funding(1)	Average User Charge for Sewered Areas(2)	Average User Charge for Unsewered Areas(3)	Amount of Potential Federal Grant
Alternative 1	No federal action	$ 8,210,000	$ 1,180,000	$ 205	$ 39	$ 0
Alternative 2	On-lot system renovation	13,000,000	1,370,000	118	100(4)	4,050,000
Alternative 3	Small community systems	24,400,000	1,920,000	324	27	15,100,000
Alternative 4	Suburban Maryville-Alcoa	9,270,000	1,290,000	182	38	2,220,000
Alternative 5	Limited 201	13,000,000	1,580,000	251	32	3,300,000
Alternative 6	Full 201	25,800,000	2,420,000	570	33	12,600,000

(1) Local annual costs are costs to be handled by local sources assuming federal funds are provided for pre-designated facilities within each alternative except Alternative 1.

(2) The average user charge for sewered areas is the local annual cost for interceptors, laterals, house connections and small community systems divided by the average number of households assumed to be sewered by these facilities between 1980 and 2000.

(3) The average user charge for unsewered areas is the local annual costs for on-lot systems (and an on-lot management agency for Alternative 2) divided by the average number of households assumed to be served by on-lot systems between 1980 and 2000.

(4) User charge based on high level of management agency involvement and applying the costs of new septic tanks to current users of on-lot systems. This cost could be significantly reduced. See Chapter IV for a discussion of potential costs associated with the management agency.

b. Environmental Impact

The environmental impacts associated with the no federal action alternative are near the lowest of the alternatives. Implementation of this alternative would support the projected land use pattern and population distribution with sewer service provided to those areas projected for greatest growth.

By not providing EPA funds to support future development, this alternative would eliminate the indirect federal role in causing increased nonpoint source loads to local streams. Where on-lot systems are used in the future proper siting, operation and the use of alternative designs in certain areas should prevent impacts to either surface or ground water quality. The land application site at Townsend could affect water quality and stream fauna if malfunctions did occur, but any impact would be much less than that from a direct surface discharge to the Little River.

Under the no federal action alternative growth and development will proceed as projected in the land use plan. This will lead to the orderly provision of community services and facilities. This alternative would, however, require significant expenditures by local government to extend sewer service to areas in the periphery of Alcoa and Maryville. This could possibly divert funds from the support of other public services.

This alternative will not result in the use of federal funds which could impact prime farmland or archaeological resources. However, as the population increases and waste treatment needs rise, some in-ground cultural resources are likely to be disturbed during package plant construction, surface discharge line installation and on-lot septic tank installations. Such impacts may not be mitigated because none of the activities under this alternative would be federally funded. No state legislation requires cultural resource evaluation when local or state funds are utilized.

c. Operability

In terms of operability, this alternative has some limitations. Operation of a package plant and sewer system at Townsend will increase operating requirements.

d. Implementability

Implementation issues are more of a problem. If the Townsend package plant were to use a direct discharge to the Little River it would be inconsistent with past state policy. There would also be an adverse public response to any discharge to the Little River. It is also doubtful if the County can afford the cost for sewer extensions and a package plant at Townsend without resorting to revenue actions that may be resisted by the public.

2. On-Lot Systems

a. Cost

Total net present worth for this alternative is about $13 million including the value of both system renovation and new on-lot systems. This is the second lowest net present worth of the action alternatives. Total local annual cost with federal funding for this alternative is $1.4 million which is third lowest of the six alternatives.

b. Environmental Impacts

Environmental impacts of the on-lot alternative were discussed in detail in Chapter II. This alternative would eliminate future wastewater discharges to surface waters and most of the environmental impacts resulting from existing on-lot problems. However, if a lower overall density of development results, some prime farmland could be converted and costs to provide future public services to a more dispersed population would be higher. This should be more than offset, though, by the elimination of any actions which would support or induce more extensive development in rural portions of the County.

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c. Operability

Operability impacts of this alternative are a function of the type of on-lot system used. Conventional systems have minimal concerns, elevated mounds would have greater design, installation and operation and maintenance requirements.

d. Implementability

The only major implementation issue for this alternative is the question of the ability of local agencies to implement on-lot renovations. If a management agency is established, other issues as discussed in Chapter II would need to be addressed.

Evaluation of this alternative is presented in more detail in Chapter II.

3. Small Community Systems

a. Cost

Total net present worth of this alternative is second highest of all alternatives at $24.4 million, more than 30% higher than the third most expensive alternative. The local annual costs with federal funding, would be approximately $1.9 million.

b. Environmental Impacts

The small community alternative would support projected land use patterns and population distribution by providing sewer service in areas designated for residential development.

The community treatment systems could potentially impact the water quality of area streams through surface water disposal of treated effluent. This impact would occur at specific sites and would be most

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severe at sites that are located near stream headwaters. In these locations increased biochemical oxygen demands (BOD_5) and nutrient loadings would result because sufficient dilution of effluent would not be achievable. This impact would be especially severe during low flow stream periods. While the state of Tennessee would assign permit levels based on waste load allocations which should prevent the violation of water quality standards, system malfunctions could have serious impacts. Such system malfunctions can be expected under the small community system alternative.

If land disposal is selected for the 35 small community systems, the disposal sites should be located on soils that allow adequate renovation of wastewater so that groundwater quality problems do not result. It is very important that detailed investigations of these sites occur before they are constructed, and that they are properly maintained because many of the sites are located near small streams or sinkholes. If malfunctions were to occur, groundwater or surface water contamination could result as effluent was transported away from the site through sinkholes or streams.

Impacts to terrestrial systems under the small community systems alternative will be associated with the facility siting, pipeline corridors and future residential development. The number of acres utilized for treatment plant siting will be small. However, if land disposal is used, it will require the dedication of a significant number of acres. Site visits to these potential sites indicates that virtually all the land is currently in agricultural use and would involve minimal conversion of forested areas. The pipeline right-of-ways would probably be along existing roadways in existing residential areas and would have minimal impact on terrestrial systems. Impacts to riparian vegetation from either collection lines or effluent discharge points should be minimized to the extent possible by mitigative measures.

The small community alternative would support implementation of the Blount County Land Use Plan and lead to the provision of future public services and facilities in an orderly and cost effective manner.

There will be a direct impact on prime farmland from those small community systems where land application is selected for disposal and the application areas are prime farmland. This would include areas 4, 13, 14, 17, 18, 22, 24, 26, 27, 32 and 35. If rapid rate systems are used in these areas farming would probably be eliminated, however, if spray irrigation is selected many types of farming could still be undertaken. In any case the total areas involved is slight. Only in Townsend would more than 10 acres of prime farmland be required.

In some of the small community areas it is also possible that future residential growth served by the system would result in the conversion of prime land. Areas 5, 6, 7, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 27 and 29, half of all the systems, would provide service to prime farmland. Typically, however, the projected population increases are quite low. At prevailing residential densities the typical amount of prime land converted by each system would be about 50 acres. In Townsend about 80 acres could be converted and in Carleton and the Smoky View Estates areas 60 and 84 acres respectively could be converted. This impact could be mitigated by limiting future hook-ups on prime land. In many cases premature subdivision and subdivision of frontage lots by farmers have already adversely affected the viability of farming in these areas. Also, against this potential conversion impact, it should be recognized that the small community systems could serve to concentrate growth in specific nodes, lessening residential sprawl on large areas of prime farmland.

Wastewater disposal methods outlined under the small community systems alternative will not greatly affect cultural resources. By land application of waste to some areas, in-ground cultural remains might even be protected from further agricultural-related and natural degradation. There is a possibility, however, that altering soil hydrology by land application of solids or liquids may create slight adverse effects for inground cultural resources. When considering discharge of wastewater to the nearest river or stream under this alternative, some adverse impacts to cultural resources could arise as a result of intalling discharge pipelines. It is anticipated that these lines will be of minimal length and that any adverse impacts to cultural remains can be mitigated by survey and testing measures.

c. Operability

Operability issues would be extensive for this alternative regardless of disposal options. The proliferation of plants and need to maintain high effluent quality would complicate operation of the conventional option, while land application would have limitations due to weather restrictions and high maintenance requriements.

d. Implementation

Implementation is also highly limited. The surface discharge option could conflict with state policy. Land application would be hindered by high cost and lack of public and agency familiarity.

4. Suburban Maryville-Alcoa Alternative

a. Cost

Net present worth for both federally and locally funded actions is next to the lowest of the alternatives at about $9.3 million. The local annual costs with federal funding would be $1.3 million.

b. Environmental Impact

The provision of wastewater service proposed under this alternative is consistent with the Blount County Land Use Plan and should have no adverse impacts on the land use pattern recommended by this plan.

Impacts to surface water under this alternative are not seen as being great. There would be an increase in the volume of discharge at the regional wastewater treatment plant and an increase in the number of on-lot systems in the rural portions of the County. There would be some short-term sedimentation as sewers are built along or across streams adjacent to Alcoa and Maryville.

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The size of the service area for the suburban Maryville/Alcoa limited interceptor alternative is relatively small and is composed largely of agricultural and residential areas. Approximately 700 acres of forest land is included in the service area, but development will probably occur on the flatter, cleared agricultural land. Interceptor routes will not be through forested areas. Impacts to the terrestrial systems are expected to be minor under this alternative.

Installation of interceptor lines proposed for the Maryville/Alcoa suburban alternative should not impact any known cultural resources. It is likely that much of the impact of installation of this alternative would occur in previously disturbed areas. Greater effects may result from population growth encouraged by the presence of waste treatment services.

c. Operability

Operability issues of the funded interceptors are all seen as fairly minor. The technology is conventional; limited construction is proposed and effluent discharge would be from the existing treatment plant to the Tennessee River.

d. Implementability

Fewest implementation issues are seen for this alternative.

5. Limited 201 Alternative

a. Cost

Net present worth for the actions proposed under this alternative totals about $13.0 million and is third from highest. The local share of annual costs with federal funding is next to highest at $1.6 million.

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b. Environmental Impact

The public sewers in the limited 201 alternative would provide service through some areas designated as rural residential on the County plan and could result in a level of development much more intense than that forseen by the land use plan. It is also important to note that the interceptors proposed for construction in all alternatives where interceptors are involved are designed to flow half full at peak flow. This means that extra capacity would be available unless population was limited by land use controls or other means.

Although there would not be any increase in wastewater discharge to the Little River under this alternative, adverse impacts on water quality could result from construction activities. Increases in erosion and sedimentation following construction of pressure or gravity sewers can increase stream sediment loads which would, in turn, lead to accelerated channel erosion. This impact would be most severe where slopes are steep and vegetation is difficult to establish, at pipeline-stream intersections and during periods of intense rainfall. Depending on the alignments selected, many or all of these impacts could result from construction of the interceptors proposed in the limited 201 alternative.

Impacts from this alternative to the terrestrial systems will vary across the study area. Land conversion impacts from pipeline right-of-ways and residential development will be more important for area wildlife where forested lands are converted and less important for agricultural lands. Although the service areas in the northwestern County and Maryville/Alcoa periphery areas both include approximately 3000 acres of forest land, impacts to terrestrial systems are expected to be greater in the northwestern area. Agricultural land use is dominant (51%) in the Maryville/Alcoa periphery area and the bulk of the land conversions are expected to be from agricultural to residential. However, forest land is dominant in the eastern County service area (41%) and will be converted to a larger extent. Although forested land accounts for the vast majority of the eastern County and Townsend/Kinzel Springs areas, the service areas for the limited 201 alternative also incorporate substantial amounts of existing residential and agricultural land. Approximately 500 and 800 acres of forest lands are included in the eastern County and Townsend/Kinzel Springs service areas. Development within these service areas is expected to be primarily in agricultural and residential areas. The service area in the Nails Creek area will serve existing residential and agricultural areas with only small areas of forest lands.

The right-of-ways for the gravity interceptors along Laurel Branch and Flag Branch and in the Dellwood area as well as the force main along the Little River could have major impacts on the riparian vegetation in these areas. The disruption of this habitat would impact terrestrial wildlife populations as well as aquatic systems.

Although the limited 201 alternative is basically consistent with the County Plan, it could support excessive growth in areas more distant from Maryville which could lead to increased costs for the provision of services and facilities in these areas.

Under this alternative wastewater service is provided to areas in both the Alcoa/Maryville periphery and the Townsend area which include substantial amounts of prime agricultural lands. The potential is clearly present for inducing development in these areas thus converting prime land to non-agricultural uses.

Impacts to cultural resources would be mixed. Direct impacts would be minimal in areas where sewer lines follow previously disturbed road grades. Sewer line installation would have considerably greater effects for impact zones, including floodplain areas along the Little River where 27 sites (26 unconfirmed and 1 confirmed) have been discovered. None of these known resources would be impacted, but, based on physiographic similarities between the northern and southern portions of the Little River, cultural resources would probably be discovered in the southern floodplains of the lower eastern County area. Similarly, most of the Townsend/Kinzel area which will be affected by interceptors is also expected to be sensitive.

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Impacts resulting from future growth are of particular concern when considering historic structures. These resources can be directly damaged by clearing activity or indirectly impacted by disruption of the natural setting.

c. Operability

The limited 201 alternative includes only conventional interceptor sewers, pump stations and on-lot systems. The operability issues of these technologies are not a significant limitation. Small diameter sewers would be difficult to clean and inspect and if implemented, sand mounds do have some additional design and operational requirements.

d. Implementability

Implementation is not limited by any plans or policies. Some public concern regarding local cost and growth support may result. The lack of a local agency adequately staffed or authorized to carry out the project will limit implementability somewhat as will the fairly high local cost share.

6. The Full 201 Alternative

a. Cost

Net present worth of this alternative is $25.8 million-- higher than all other alternatives. The local annual costs for this alternative with federal funding are also highest at $2.4 million and the average user charge for sewered areas would also be greatest of the alternatives.

b. Environmental Impacts

The public sewers included in this alternative provide for much more capacity in the rural areas of Blount County than the population projection and land use plan provide for. The sevice areas proposed are so large that the result would be inducement of excessive growth and sprawl over hundreds of acres. This excessive growth potential could result in development of

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lands planned for agriculture, forest or open space in the County plan, particularly in Townsend, but also to a lesser extent in the eastern and southeastern portions of the County adjacent for Maryville and southwest of Mentor.

Like the limited 201 alternative, this plan would not result in any further direct wastewater discharge to the Little River or its tributaries, but there is still a potential for significant construction-related impacts, as discused for alternative 5.

The extensive service area proposed in Townsend under the Full 201 alternative would support a level of development that would create a high potential for impact on the temperature and level of suspended solids in the Little River.

Currently, the percentage of vegetation cover and shading along the Little River in the Townsend/Kinzel Springs subarea is about 25 to 50 percent. Development along the river and its tributaries in more upland areas would remove streambank vegetation and result in significantly higher water temperatures. Estimated equilibrium temperatures for the Little River are summarized in Table III-5. These temperatures represent theoretical, average values for water temperatures given certain assumptions regarding climate. They assume a static condition and do not reflect the flow of cold water from upstream. However, sampling of the Little River during 1980 found water temperatures of 27°C with existing tree cover, but under a situation of extreme air temperature and low rainfall. Based upon this finding, it would seem that the E temperatures on Table III-5 can be taken as a reasonable predictor of the Little River temperature under varying amounts of streambank cover. Based on these values, the state of Tennessee water quality standard for recreation, fish and wildlife use of 30.5°C could be violated during summer months if streambank shading decreased to the 5 to 15 percent range. The criterion for trout waters of 20.0°C is already exceeded in much of the Little River during summer months. Decreases in streambank shading would further exacerbate this condition.

TABLE III-5

Equilibrium Temperatures ($\bar{E}$) for the Little River Indicating Thermal Impacts of Riparian Vegetation Removal

Percent Vegetation Cover	Percent Solar Radiation Penetration	Monthly Mean Equilibrium Temperature (July)	
		(°F)	(°C)
0	100	94	34.4
5	95	86	30.0
15	85	78	25.4
25	75	73	22.8
35	65	70	20.9
50	50	64	17.8
75	25	45	7.2

Based on EPA 1982. A screening procedure for toxic and conventional pollutants. Part 1. EPA-600/6-82-0042.

$$\bar{E} = (-)\ \frac{0.05E^2}{K}\ (+)\ \frac{H_R - 1801}{K} + \frac{K - 15.7}{K(0.26+B)} \cdot (e_a - C(B) + 0.26T_a)$$

where:

$\bar{E}$ = Equilibrium temperature, °F
K = Thermal exchange coefficient, BTU/ft^2/day/°F
H_R = Net incoming short (H_{sn}) and long (H_{an}) wave radiation, BTU/ft^2/day
T_a = Air temperature, °F
e_a = Water vapor pressure of ambient air at air temperature, mmHg
B = Proportionality coefficient, mmHg/°F
C(B) = Value dependent on B, mmHg

Climatological data based on 1980 Annual Summary for Knoxville, TN (McGhee-Tyson Airport). NOAA, Asheville, NC - Period of Research for mean dates 1941-1970.

TABLE III-6

Nonpoint Suspended Sediment Loading Rates for Selected Land Use Activities; Estimated Loadings for the Full 201 Alternative Service Ares under 1980 Conditions and Estimated Changes in Loadings under 2000 Conditions for the Townsend/Kinzel Springs Subarea

Land Use Activity	Loading Rate (#/acre/year)	Full 201 Service Area (acres)	Estimated 1980 Loading (#/year)	Change (acres)	Loading Change (#/year)
Forest	75	2,128	159,600	(-)2,128	(-)159,600
Residential	475	494	234,650	(+)4,788	2,274,300
Grassland	750	2,660	1,995,000	(-)2,660	(-)1,995,000
Commercial	1,095				
Industrial	1,460				
Urban	1,920	38	72,960		
Cropland	15,000				
Harvested Forest	37,000				
Construction	150,000	*		*	*
TOTAL		5,320	2,500,000		120,000

*Note: Construction impacts would not result in an overall change in sediment loading after 20 years, but in a year-by-year increase as construction takes place. Assuming 1/20 of the total change in residential land use occurs each year, the yearly increase in sediment loading would be:

Loading Rate H/acre/year	Average Acres under Construction Each Year	Sediment Loading/#'s
150,000	239	35,850,000

Table III-6 summarizes changes in suspended sediment loadings in the Little River resulting from development supported by the Full 201 plan. Increases in residential land use would result in a 5% increase in the annual rate by 2000. However, the construction of new homes would add nearly 36 million pounds of sediment on an average yearly basis over the 20 year period. Such a 14-fold increase in the level of suspended solids would likely impair the recreation, fish and aquatic life water use of the Little River.

Impacts to terrestrial systems would be similar to those discussed for the limited 201 alternative, except that because of the greater extent and capacity of the sewers in this plan, more residential development can be accommodated. If this development is induced it would mean the conversion of significantly greater amounts of natural land area.

The potential for growth beyond what has been projected also results in an expanded need for municipal services. Many of the locations where excessive growth will be encouraged are at the most distant edges of the County where city services are minimal and County services are strained to reach. Friendsville, Seymour/Shooks Gap and particularly Townsend are the primary examples.

The availability of sewer service to the Townsend area could also have significant influence on economic activity within that area. All of the alternatives provide service for the projected year 2000 population level. The full 201 alternative, however, provides service for a much larger population. The implementation of this alternative would eliminate the provision of wastewater service as a constraint to large tourist, recreation oriented development for this area. Thus, the provision of such service now could act as a stimulus to future economic activity. This stimulus would in effect be the provision of a subsidy to future developers by current federal and local taxpayers.

The areas proposed for service in the full 201 alternative include a large percentage of all the prime farmland remaining in Blount County. Most of the prime agricultural land in the Alcoa/Maryville periphery and the Townsend/Kinzel Springs subarea is proposed for service. The only substantial acreage of prime land that would not be served is in the eastern County area beyond Wildwood.

Some of these locations proposed for service are already developed residential areas where much of the agricultural viability is lost. Other locations may include failing on-lot systems and therefore be eligible for service, however, there remain large areas of viable prime agricultural land proposed for service with the potential to induce growth on this land.

Under the 201 alternative, direct impacts to cultural resources would be minimal in areas where interceptor lines follow previously disturbed road grades. Interceptor line installation would have greater impacts in floodplain areas, particularly along the Little River. Four of the 27 sites along the Little River are within the 201 service area.

c. Operability

Operability issues for the 201 alternative are fairly minimal. Technology is conventional, the probable treatment levels achievable and operation activities confined primarily to the existing regional treatment plant. Some maintenance difficulties could arise due to clogging or difficulty in inspecting small diameter sewers.

d. Implementation

Implementation of this alternative is limited primarily by the high local cost share and the fact that no local agency is presently equipped to take over construction, operation and maintenance responsibilities of such an extensive system.

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Chapter IV

-REVISIONS TO THE DRAFT EIS-

CHAPTER IV

REVISIONS TO THE EIS

A number of revisions to the Draft EIS have been made in response to the written and oral comments which were received. The information below lists the location where a change was made in the Draft, what the revised text or graphic should be and the person or agency upon whose comment the change is made.

Location	Revision	Person/ Agency
Page 11, paragraph 2, first sentence	Replace word EPA with agency. Replace federal with EPA.	HUD/ETDD
Page 11, paragraph 4, second sentence	Replace and add third sentence, Costs for these lines as well as any other future wastewater management facilities could be funded by local sources or other state or federal grant or loan programs. The findings and conclusion of the EIS do not preclude other agencies from deciding to assist the County based on other program goals and selection criteria.	ETDD
Page I-2	Delete shaded service area designation from around sewer line shown south of Maryville.	ETDD
Page II-76, paragraph 3, first sentence	Replace word federal with EPA.	HUD/ETDD
Page IV-2, paragraph 3, first sentence	Delete EPA, replace federal with EPA.	HUD/ETDD

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Page II-81, paragraph 5, first sentence	Replace the MUB with a city utility board.	J.R.Wauford & Co., Inc.
Page V-3, paragraph 1, last sentence	Delete and the pros and cons of expected growth. Add the pros and cons of expected growth and the study area boundaries.	J.R.Wauford & Co., Inc.
Page II-82, first line	Change MUB to AUB	J.R.Wauford & Co., Inc.
Page IV-3, Table IV-1	Add note to remedy for sludge accumulation not to use cleaning fluids such as TCE.	EPA
Page 5, paragraph 5, line 2	Change $24.4 million to $25.8 million.	
Page 8, Table 1 Alternative 6	Change 18.2 to 25.8	
Page II-53, Table II-18	Change 18,200,000; 1,430,000; 187 and 51 to respectively 25,800,000; 2,420,000; 570 and 33.	
Page II-84, paragraph 3, line 2	Change $18.2 million to $25.8 million.	
Page II-85, paragraph 2, lines 2, 3 and 4.	Change, about $190 to over $500. Delete all of second sentence.	

Chapter V

-COMMENTS ON THE DRAFT EIS AND EPA RESPONSES-

CHAPTER V

COMMENTS ON THE DRAFT EIS AND RESPONSES

This chapter of the Final EIS includes comments on the Draft EIS which were presented in writing or given orally at the public hearing held on February 22, 1983. Part A of this chapter includes all the written comments and provides appropriate responses. Copies of the full text of all letters received are included in Chapter VII. Part B lists all oral comments received at the public hearing and a response to each.

PART A

WRITTEN QUESTIONS AND RESPONSES

1. Mr. Allen W. Neel, Executive Director, East Tennessee Development District. Letter of February 24, 1983.

   a. Comment: There is considerable merit from a cost effective and water quality standpoint in recommending that certain areas plan to treat wastewater through other than traditional systems.

   Response: No response needed.

   b. Comment: Because the EIS was initiated so long ago, the maps showing existing wastewater service areas are out of date. ETDD recommends that an addendum that shows the actual public wastewater service area as of early 1983 be attached to the EIS.

   Response: The sewer lines shown on Figure 1-1 of the Draft EIS are only those that were proposed in the 1976 201 Plan that have been built. The lines as shown are correct as of this time. It is true that there is also a service area that each line could serve. It may be confusing that a service area is shown for the new sewer line to Colonial Manor Nursing Home and not for the other lines. In fact, at this time none of the lines serve any area beyond that directly adjacent to the alignment. A potential service area exists around all lines. The limits of this area are based mainly on watershed boundaries and the private sector's willingness to connect lateral lines to these trunks.

The shaded area on Figure 1-1 covering Eagleton Village area does not include any sewers from the 201 Plan. It does accurately show the boundaries of an area outside the city limits that is served by the Alcoa Utility Board.

c. Comment: The other major concern is that the existance of this EIS may cause other federal programs to adopt a position that they should fund no further extensions of wastewater service in Blount County. ETDD understands EPA's position that based on EPA law and policy, EPA should not fund additional interceptors and pump stations at this time due to the lack of current water pollution problems and the requirement of cost effectiveness. However, other federal programs have other criteria. UDAG, ARC, and EDA, for example, generally fund job-oriented development activities. CDBG usually concentrates on service to lower income areas or job related new development. ETDD, therefore, recommends that EPA make clear that relatively short extensions within and beyond the existing service boundary are not precluded from using other federal funds that may be available. ETDD recommends that in conjunction with the map recommended in (2) above, that a line be drawn (in consultation with the three local planning agencies) beyond the existing service area which includes the existing built-up area not sewered immediately around the existing wastewater service area, the new industrial park on State Route 33 and any other nearby densely developed area, school, or other institution within which wastewater extensions that might be funded by federal funds other than EPA would not be questioned by EPA unless other environmental factors such as flood plains or natural areas were present.

Response: The comment is correct concerning the basis for EPA decision-making as well as that of other federal agencies. Revisions to the EIS will make this more clear. Regarding the second portion of the comment, EPA would not question federal funding of short sewer extensions as discussed here, unless there were impacts to specific environmental factors. In any case, these other funding agencies have environmental review requirements which would apply to their actions. EPA has not included in the scope of the EIS, an analysis that would allow identification of "fundable" areas and EPA can not presume to predesignate areas for other agency funding.

d. Comment: ETDD also recommends that EPA specify that Friendsville should not be precluded from use of other federal funds for wastewater installation connected either to the Maryville system by pump or to its own treatment plant.

Response: Same as in c above. Other agencies may choose to fund wastewater facilities in Blount County if to do so is consistent with their program goals and environmental guidelines.

2. Mrs. T. V. Finger, Townsend citizen. Letter of March 1, 1983.

a. Comment: Thank you for your decision. It's what we had said at the Courthouse all the time.

Response: No response necessary.

3. Frank R. Erickson, Legal Counsel, Metropolitan Knoxville Airport Authority. Letter of March 2, 1983.

a. Comment: EIS fails to show sewers extending to certain parts of the airport.

Response: Existing sewers shown on Figure 1-1 of the Draft EIS are only those proposed by the 201 Plan which have been built within the study area. There are other lines outside of the city limits of Alcoa and Maryville, including to the airport which were built prior to the 201 Plan.

b. Comment: The EIS should be clarified to show that EPA is not precluding the use of grant funds or other funds available of sewer lines to airport facilities if such funding is available.

Response: See response 1.c. EPA action does not preclude other agency actions, including those of the FAA regarding the airport. This will be made more clear in the Final EIS.

4. Mr. Herbert L. Harper, Executive Director and Deputy State Historic Preservation Officer, Tennessee Historical Commission. Letter of January 12, 1983.

a. Comment: The Draft EIS does not address Section 106 compliance needs for alternatives involving a federal action, e.g. an EPA step 2 or 3 construction grant. The SHPO recommends that a cultural resource identification by a qualified professional should be made a condition of an EPA Step 2/3 grant or any other federal assistance allocated for wastewater facilities construction. The grant recipient should consult with the SHPO to determine the exact scope and nature of identification studies warranted.

Response: The preferred alternative selected by EPA in the Draft EIS would utilize on-lot systems under either alternative 1 without federal funding or alternative 2 if federal funding is provided. The construction or rehabilitation of these systems would be confined to very limited areas in developed locations. There would be very little likelihood of encountering any cultural resources materials except those already disturbed by development.

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5. Mr. Aubrey D. McKinney, Acting Basin Manager, Knoxville Basin Office, Division of Water Management State of Tennessee, Department of Public Health. Letter of March 8, 1983.

   a. Comment: Both EPA and participating consultants are to be commended for an accurate and thorough assessment of existing conditions in Blount County.

      Response: No response necessary.

   b. Comment: This Division has identified Little River as a natural resource of regional and national importance. EPA's emphasis on protection of Little River as a priority item is appropriate.

      Response: No response necessary.

   c. Comment: The selected alternative is consistent with the state's commitment to use available funding to abate existing pollution. At some future date should a municipal facility be required in Townsend, the Innovative and Alternative approach will enhance funding opportunity and provide for protection of Little River.

      Response: No response necessary.

6. Mr. Thomas M. Webb, Manager, Environmental Services, Tennessee State Planning Office. Letter of February 15, 1983.

   Comment: A survey should be conducted in compliance with the National Historic Preservation Act to identify historic, archaeological, or cultural properties in the project impact area.

   Response: Same as 4.a. above.

7. Mr. Donald C. Bivens, State Conservationist, U. S. Department of Agriculture, Soil Consdervation Service. Letter of March 1, 1983.

a. Comment: It is our opinion that this plan will put increased pressure on the prime farmland that is still farmed. We see a significant impact to prime farmland in Blount County if this alternative is selected.

Response: By deciding not to fund interceptor sewers, the EPA has taken a significant step to remove a direct federal impetus to the conversion of prime farmland. This action is particularly significant in Townsend where hundreds of acres of prime farmland would have been served by sewers. Even if all future growth takes place on septic tanks the total amount of land required for future development would not be great based on approved population projections. The additional land converted because of larger lot sizes on septic tanks may be less than that protected in Townsend because of this decision.

b. Comment: The characteristics of prime farmland soils and soils suitable for on-site disposal systems are practically the same. Therefore, a plan that encourages on-site sewage disposal systems in Blount County is a plan to use prime farmland soils.

Response: Prime farmland soils are generally well suited to septic tanks, however, they have many other characteristics that make them preferable for development. They are relatively level, well drained, easy to clear or already cleared and inexpensive to grade. Historically, developers have preferred good farmland even when sewers are available. By encouraging the use of alternative and innovative systems, this alternative would make a wider range of soil types feasible for on-lot disposal systems.

c. Comment: We also believe that a failure rate of 15 percent of present systems greatly hinders the selection of the on-lot

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system alternative. The on-lot system (septic tanks) has failed in all these cases. Most of these lots are small with no room for correction attempts. The alternative on-lot systems mentioned are already available for use but implementation is impaired by the homeowners' lack of funds. Also, the mound systems have been tried with poor results in both Tennessee and North Carolina.

Response: The 15% rate of failure is a highly conservative figure used to define the alternative to be sure it was feasible and cost effective even under a worst case situation. More detailed study would be needed if funds were to be awarded. These would probably find a substantially lower rate of failure; current studies by MUB support this. In any event, it has been determined that one of the broad range of alternative and innovative systems available would work adequately to solve the problems identified even for small lots. Federal funding would support installation of these systems where they are presently failing. Our estimates do show the typical sand mound system to be more costly than a conventional septic tank/drain field but still affordable to citizens of Blount County. Alternative on-lot systems can be more complicated to design and install but the review, approval and inspection requirements of the management agency should ensure that the systems function properly.

8. Mr. Thomas D. Sims, Chief, Environmental Planning Division, U. S. Department of the Air Force. Letter of January 12, 1983.

a. Comment: Development of the subject facilities will not impact Air Force activities in Tennessee.

Response: No response necessary.

9. E. C. Moore, Chief, Engineering Section, U. S. Department of the Army. Letter of February 14, 1983.

a. Comment: Our review indicates that the "on-lot systems" alternative, the preferred alternative as described in the DEIS, appears to be the most favorable since it would involve the least degree of environmental impact to the aquatic/wetland habitat and associated fish and wildlife. Alternatives 3-7 would require the installation of sewage interceptor lines at the subject location. If these transmission lines are constructed across any water of adjacent wetland of the United States, Department of the Army (DA) approval would be required.

Response: The preferred alternative would not require construction of any sewer lines across any water or adjacent wetland.

10. Frank S. Lisella, Ph.D., Chief, Environmental Affairs Group, Environmental Health Services Division, Center for Environmental Health, Public Health Service, U. S. Department of Health and Human Services. Letter of February 18, 1983.

a. Comment: We agree that selection of the on-lot treatment alternative is preferable at this time for the project area. The implementation of this alternative, with or without federal funding, would not supersede the need for further extensions of collector lines from the Maryville and Alcoa systems or the development of a community system for Townsend.

Response: EPA policy does not permit funding of collector sewers; however, as noted in the EIS, it may be appropriate for local sources or other state or federal agencies to support extension of collector sewers from the existing city systems. EPA has indicated further that if needs in Townsend become apparent during the planning period, they will review the possibility of funding a small community land application system.

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11. Mr. Charles N. Straub, Director, Office of Regional Community Planning and Development, 4C, U. S. Department of Housing and Urban Development, Atlanta Regional Office. Letter of February 11, 1983.

a. Comment: The statement on page 11 "Federal funding for on-lot disposal systems may only be approved if there is a local on-lot management agency operating," should be clarified or expanded to show if the requirement would apply to all federal agencies.

Response: This requirement applies only to EPA. The statement has been revised to make it more clear.

b. Comment: The EIS should explain how the responsibilities of the local on-lot management agency would differ from those of the Blount County Public Health Office.

Response: Discussion of the role and duties of the on-lot management agency is presented in a number of places in the EIS, though it does not specifically address differencies with the existing county health department. The management agency would have certain responsibilities similar to the BCHD, however, the health department presently has no means of monitoring and few means of enforcing proper operation or maintenance. The management agency would establish a mechanism for monitoring and it would be given the authority to require proper operation and maintenance.

c. Comment: The timing of the decision by Blount County officials, whether to establish a local on-lot management agency, appears to have a bearing or effect upon the proposed project. Please clarify how this decision will be made and how the decision will affect the project.

Response: Based on the findings of the EIS, Blount County would need to make a new application to EPA for funds to renovate and replace on-lot systems. A grant would not be approved unless the

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application demonstrated that a management agency would be implemented in the County and that steps toward implementation were being taken.

12. James H. Lee, Regional Environmental Officer, U. S. Department of Interior, Office of Environmental Project Review. Letter of March 8, 1983.

a. Comment: The draft EIS on page II-66 states that numerous communities have poor soils and that other communities have a high percentage of failed on-lot systems. Because of this information, we believe the EIS would be improved by including a soils map of the study area which would show the suitability of the soils for on-lot systems.

Response: Although a soil suitability map is not included in the Draft EIS, this information was reviewed and tabulated in developing the EIS. Soil suitability by percentage of total area was calculated for all portions of the study area as well as specific small community areas. Although some soils were rated as "poor" in terms of suitability for conventional on-lot systems, the evaulation determined that on-lot systems could provide adequate renovation of wastewater in any area permitted by the County, provided that oversized, multi-field or other alternative designs be used in certain constrained locations. An additional table has been incorporated in the Final EIS (II-2) which presents soil suitability ratings for both conventional and alternative on-lot systems throughout the study area.

b. Comment: The nature of the project would suggest no adverse impacts on local mineral resources but the draft fails to address this issue. For completeness, mineral resources should be discussed in Chapter III, Affected Environment, with mention made of the various limestone quarries operating within the County. If no adverse impact on local mineral resources is anticipated, a statement to that regard should be included.

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Response: As stated in response to comment 10.a, adequate renovation of wastewater can be provided throughout Blount County using either conventional or alternative on-lot systems. With proper operation and maintenance there should be no impact to groundwater. Certainly these systems will not directly affect mineral resources in the County and there will be no indirect impact through groundwater encountered in conjunction with these resources.

13. Mr. Raymond C. Woods, P.E., Principal, J. R. Wauford and Company, Consulting Engineers, Inc. Letter of February 28, 1983.

a. Comment: A recent hydraulic study by TVA concluded that there is sufficient flow in the Little River during the 3-day, 20-year (State of Tennessee Design Criteria) and 1-day minimum low-flow period to meet the existing water demands.

Response: This is new information which does indicate a better water supply situation than previous reports. It does not eliminate the value or need for water conservation measures.

b. Comment: The existing interceptors conveying wastewater to the Regional Wastewater Treatment Plant have capacity to transport dry weather peak flow; however, during peak I/I conditions the interceptor becomes surcharged.

Response: Based on this comment future use of storage capacity in the lines may not be possible. In any case use of on-lot systems would lessen future increases in flows to the plant, perhaps eliminating the need for relief sewers or I/I elimination.

c. Comment: The average daily, year 2000 treatment plant capacity for Townsend is shown to be 0.036 mgd. This appears low when compared to the 4536 average nightly visitors projected in Table A-1, Page A-7, which equates to 0.45 mgd using 100 gpcd required by the State of Tennessee Design Criteria.

Response: The .036 MGD flow is an average daily flow. Sizing and cost for interceptors, force mains and pumping stations were based on peak flows, and for treatment and disposal facilities, on maximum daily flows. Maximum daily flows were estimated to be two times the average daily flows, plus seasonal flows.

d. Comment: The on-lot management alternative appears well suited for residents experiencing problems with failing septic tanks and with no public sewers available; however, why should residents not experiencing problems participate in the program?

Response: The entire objective of the management agency is to insure proper long-term operation and maintenance of on-lot systems. If they are run properly, these systems will achieve a long service life and renovate domestic wastewater sufficiently to protect water quality. The requirement for proper operation and maintenance applies to all systems not just those with current problems.

e. Comment: Under the suburban Maryville/Alcoa alternative, Alcoa Utilities Board would probably assume responsibility for operation and maintenance of sewers constructed north of the airport.

Response: This information will be revised.

f. Comment: The 201 Plan proposed the use of force mains vs. gravity interceptors to mitigate the impact on land use. Specifically, the wastewater from Townsend was to be conveyed via force mains which have a limited capacity.

Response: Because these lines had excess capacity based on high population projections, they could have encouraged development along the Little River. Though as stated, intermediate hook-ups are more difficult with force mains, they are not prohibited. With a total lack of any other controls or development a significant potential for land use impacts was seen.

g. Comment: Assuming the on-lot management agency is as described in the first full paragraph on Page IV-6 where the homeowner pays for regular O & M, renovation, replacement, or maintenance resulting from management agency-authorized inspections, the only reason for the agency would be to obtain the initial federal funds. Under this option $530,000 would be expended annually to receive $4,000,000 in grant funds to upgrade about 1,700 septic tanks.

The focus of the EIS as stated on Page I-1 "...is on wastewater facilities proposed in the 201 Plan for Phase II funding." Blount County never considered any projects under Phase II except for sewers to Townsend. Estimated cost of this project was $3,500,000 which, if amortized over a 20-year period at 10 percent interest, would result in an annual debt service of $411,000.

The question is will the EIS prevent Blount County or Townsend from applying for other federal grants or from constructing the Townsend sewer system using local funds?

Response: No. See responses 1.c, 8.a and 9.a.

h. Comment: The second sentence of the first paragraph indicates the Townsend/Tuckaleechee Cove area has the lowest rate of observed failure. This is reasonable when this area has only 1.93 persons per household, the second lowest rate in the County, and 0.17 people per acre. In the next paragraph, the statement is made that Townsend is experiencing growth and development at a faster rate than in most other parts of the County. We believe that water quality problems will result from this growth and development and steps should be taken now to prevent the problems from occurring. The EIS makes provisions for a small community system in Townsend should problems occur; therefore, the on-lot management system does not address how to keep problems from occurring in Townsend. Why develop an on-lot system and let the sole source of water supply for Blount County become polluted?

Response: The low rate of septic tank failures in Townsend is because the majority of land development has been and will be on relatively level cove areas where soil is most suitable for on-lot systems. 60% of the total land area in the Townsend/Kinzel is rated either good or fair for conventional on-lot systems and nearly all the developable land is similarly rated.

It is true that the rate of growth in Townsend is high. But as the comment notes, existing population is low, therefore the rate of growth represents a very small absolute increase--84 people between 1970 and 1980 for the city of Townsend.

Management of on-lot systems in Townsend will address the problem of preserving water quality in the Little River based on existing and projected populations. If large scale tourist development does take place in Townsend it would be the primary responsibility of the developer or the County to provide adequate wastewater management. EPA can not fund a system when no need is present and the sole purpose is to serve speculative commercial development.

It is believed that the greater threat to the water supply results from nonpoint sources. Uncontrolled development and storm sewering can result in adverse impacts on the quality and biota of the Little River. This source of degredation should be considered by local agencies in making development decisions as well as other federal agencies in making grants which affect Blount County's drinking water supply watersheds.

i. Comment: Several elected and appointed local government officials expressed their displeasure with the selected alternative during the local government workshop meeting.

Response: The preferred alternative was not the action originally proposed by local officials. It will not, however, adversely affect the concerns of these agencies. Certain public officials

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have recognized the values of the preferred alternative and already taken steps to evaluate implementation.

j. Comment: The major issue during the scoping meeting was the expanded study area versus just the Little River Valley above Maryville's raw water intake.

Response: This issue will be added to those listed.

k. Comment: We do not agree with the projections for the seasonal population of Townsend. Factors which will increase the pressure for development in Townsend are:

   a. U.S. 321 Connector through Maryville
   b. Extension of the Pellisippi Parkway into Blount County
   c. Possible National Woodcarvers Museum
   d. Four laning of Walland Highway to Heritage High School
   e. Completion of Foothills Parkway
   f. Improvements to U.S. 321 through Wear's Valley

The seasonal population in Townsend is also dependent upon annual events such as the Crafts Fair and the Passion Play.

Response: Tourist traffic in Townsend is almost entirely a function of visitation to the National Park and the percentage of entrants through Townsend. These are both statistics for which substantial historical data exists and much future analysis has been made. Seasonal population was, therefore, based on these basic indicators. These projections have been accepted by local and regional planning agencies.

14. Mr. Dennis W. Weeter, Blount County Resident, Member of Citizens Review Committee. Written comments presented at public hearing on Draft EIS.

a. Comment: EPA considered the complete range of technical options available. They also considered alternative/innovative technology.

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Response: No response necessary.

b. Comment: As a member of the Review Committee, I was pleased that EPA handled and evaluated all questions and concerns expressed by the Committee.

Response: No response necessary.

c. Comment: Historically, our society has assumed that gravity sewers were the ultimate answer. This was sometimes biased by federal/ state cost sharing of 75%. However, these "handout" days may be over. We should not fear this change but look on it as a challenge.

How do we grow without gravity sewers? What would engineers design if we don't install gravity sewers? What about public health without gravity sewers? The answers to these questions can be positive if we are willing to break our ties to tradition. Remember, gravity sewers have only been around 75-100 years? They have their problems too, such as high capital cost, infiltration, inflow, rehabilitation. The challenge is to identify other solutions which reduce "public" costs and still protect public health.

Response: No response necessary.

PART B - ORAL COMMENTS AND RESPONSES

1. Ms. Gail Harris, County Resident and Member of the Citizen Review Committee.

a. Comment: The decision by EPA to provide general funding only for on-lot systems is a sound and sensible one, although my own preference was for the no federal action alternative.

Response: No response necessary.

b. Comment: At the very least and as a beginning, the County should create the management agency that EPA is requiring for funding on-lot systems.

Response: No response necessary.

2. Mr. Anderson Jordan, Director of Public Services, Maryville Utility Board.

a. Comment: As a result of the EIS process, the city has taken a long, hard look at its traditional practice of extending gravity sewers as its only means of delivering sanitary service. In this respect, MUB has completed an on-lot feasibility study for four major areas--these are low density areas within the city limits. The staff of the city is very encouraged by its findings.

Response: No response necessary.

3. Mr. Robert Allen, Member of the Citizen Review Committee representing the Sierra Club.

a. Comment: We agree with the finding of the Draft EIS that alternative 2 is the most cost effective and environmentally sound alternative for the County.

Response: No response necessary.

4. Mr. Dennis Weeter, County Resident and Member of the Citizen Review Committee.

a. Comment: EPA considered the full range of technical options available. They also considered the alternative and innovative technology approach. Given the inclusion of these options, the scope of the study was quite adequate.

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Response: No response necessary.

b. Comment: EPA fairly evaluated and handled a quite diverse set of opinions and comments from the Citizen Review Committee.

Response: No response needed.

5. Mr. Robert Freeman, Assistant Director, East Tennessee Development District.

Mr. Freeman's oral comments were included in a written presentation to EPA. The responses have been addressed in the previous section.

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Chapter VI

-DRAFT EIS PUBLIC HEARING-

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DRAFT EIS PUBLIC HEARING
February 22, 1983
Blount county Courthouse
Maryville, Tennessee
7:30 p.m.

AGENDA

Introduction and Purpose

Summery of Draft EIS

Purpose

Background

Alternatives

Preferred Alternative

Comments from Elected Officials

Comments from the Floor

Adjourn

Reported by: Jane M. Bacon
Telephone: 579-0435

APPEARANCES: PANEL

E.T. HEINEN - Chief of the Environmental Assessment Branch for the EPA, Region IV, Atlanta

ROBERT HOWARD - Chief of the NEPA Compliance Section

Robert Cooper - EIS Project Officer

David McKinney - Acting Basin Manager, Knoxville Office, Division of Water Management and the Tennesee Department of Health and Environment

MR. HEINEN: I would like to call this meeting to order and I would like to welcome you to the Draft Environmental Impact Statement on proposed wastewater facilities for Blounty County, Tennessee.

I would like to begin the evening here by introducing the hearing panel. My name is E.T. Heinen. I am the Chief of the Environmental Assessment Branch for the Environmental Protection Agency, Region IV in Atlanta. With me also, from EPA this evening are; Bob Howard who is Chief of the NEPA Compliance Section and Bob Cooper who is the EIS project officer for this particular project. Representing the State of Tennessee is Dave McKinney. Mr. McKinney is the acting basin manager for the Knoxville office, Division of Water Management and The Tennessee Department of Health and Environment.

I would like to recognize over here -- Sorry there isn't a bigger crowd, but we did come and we want to listen to you all, what you have to say -- Mr. Bob Davis, Blount County Executive.

We will proceed. The purpose of this evening's hearing is to receive public and other agency's comments on the Blount County Draft

Environmental Impact Statement. This EIS is being prepared to evaluate alternatives for wastewater facilities in Blount County, Tennessee. The expenditure of federal funds for wastewater facilities and the preparation of EIS's are authorized by the Clean Water Act and the National and Environmental Policy Act, NEPA, and the Clean Water Act enables EPA to fund up to seventy-five percent of the eligible cost of the planning, design, and construction of wastewater facilities.

The planning phase of this process results in the preparation of a facilities plan. The facilities plan prepared for Blount County proposed an extensive series of interceptor lines throughout rural portions of the county.

The National Environmental Policy Act requires federal agencies to prepare an Environmental Impact Statement for major federal actions significantly affecting the quality of the human environment. Because of environmental complexities involving growth related impacts to sensitive areas and water quality issues involved in this project, EPA made the decision to prepare an EIS on the 201 Facility Plan.

Accordingly, in November, 1979, the

notice of intent to prepare an EIS was issued.

Pursuant to the guidelines of the President's Counsel on Environmental Quality, the rules and regulations of the Environmental Protection Agency with regard to preparation of impact statements, this publick hearing is being held to receive comments on the Draft EIS.

This Draft EIS is being discussed in a public forum to encourage public participation in the federal decision making process and to develope public understanding of federally funded projects. In this regard, the Draft EIS was made available to the public in EPA's office of Federal Activity on January 4, 1983 and was listed in the Federal Register on January 14, 1983.

The Draft EIS comment period will extend to March 4, 1983. The comments received during this evening and during the comment period following will become part of the record.

Before we receive testimony from the Floor, I would like to ask Mr. Cooper to speak and he will provide us a brief summery of the project.

MR. COOPER. Thank you, Mr. Heinen. Good evening, ladies and gentlemen.

I would like to speak for a few minutes about the background of this EIS and the alternatives which we have been evaluating.

In 1976, the local applicants completed preparation of a 201 Wastewater Facilities Plan. The plan proposed an extensive series of interceptor lines throughout the county including service to many existing rural areas. The plan became very controversial due to a high potential for growth in environmentally sensitive areas. The most controversy centered on the Townsend area. Particular concern was directed toward the impacts of growth on the Little River, prime agricultural lands and the existing life style of that area. The 201 Plan was based on the assumption that extensive resort orientated growth would soon occur in the Townsend area.

Because of the controversy surrounding growth in the Townsend area and the potential impacts to environmentally sensitive areas, the Environmental Protection Agency (EPA) decided to prepare an EIS on wastewater management facilities to serve major portions of Blount County. Subsequently, a notice of intent was issued by the EPA regional administrator on November 14, 1979.

The study area for the EIS includes the northern half of Blount County with the exclusion of the cities of Maryville and Alcoa as shown in your handout. Wastewater facilities proposed for these already unbanized areas have been funded through previous EPA grants.

Following initation of the EIS, existing environmental conditions in the area were evaluated. This evaluation included a special study of water quality conditions on the Little River. The analysis concluded that existing water quality conditions were good and that no significant public health problems were present. These studies reinforced the conclusions reached by Tennessee state environmental officials when the Blount County projects were placed very low on the State priority list for funding. Supplemental water quality studies done at the height of the World's Fair influx last summer, reinforced these previous findings. Concurrent with this analysis, population projections and wastewater flows were developed for the study area. Feasible alternatives were then developed by combining wastewater wervice configurations and treatment and disposal techniques. I will now briefly describe the final set of alternatives for wastewater management which were evaluated in the EIS.

Alternative One, The No Federal Action Alternative: This alternative assumes that federal grant funds are not available to Blount County and that future wastewater management facilities are developed with local funding. In the heavily developed areas adjacent to Maryville and Alcoa, it is likely that sewers would be gradually extended from the existing system to areas of high density development. A small community system is seen as a possibility for Townsend if growth rates warrant. In the remainder of the county, treatment and disposal of wastewater are projected to be handled by on-lot systems.

Alternative Two, the On-lot Systems Alternative: This alternative is comprised of two components. First is the federally funded renovation of existing on-lot systems in the study area which are presently malfunctioning or failing. Based on the study of on-lot failures by EPA, this is estimated to be about fifteen percent of all present systems. These renovations are federally fundable only if an on-lot wastewater management agency is set up at the local level.

This agency would be responsible for the proper installation, operation and maintenance of on-lot systems in Blount County. The second component is the non-federally funded development in all parts of the study area. The cost for this alternative also includes a small community system in the Townsend area which may be necessary during the planning period.

Alternative Three, Small Community Systems Alternative: This alternative would consist of thirty-five individual, federally funded small community systems. A variety of options for collection, treatment and disposal were considered including gravity sewers, pressure sewers, vacuum sewers, extended aeration, extended aeration plus filtration, surface discharge and land application. For costing purposes, the least expensive combination of options was selected, small diameter gravity sewers, extended aeration treatment plus filtration and disposal of effluent to surface water. In other parts of the study area not served by small community systems, locally funded on-lot systems would be used for treatment and disposal of wastewater.

Alternative Four, Suburban Maryville

Alcoa Interceptor Alternative: This alternative would provide federally funded interceptor sewers to the areas north and west of Alcoa and southwest of Maryville. The cost for this alternative also includes a small community system in the Townsend area which may be necessary during the planning period. The remaining areas proposed for sewer extensions under no federal action would be locally funded as would on-lot systems in the rest of the study area.

Alternative Five, Limited 201 Alternative: This alternative would provide federally funded interceptors to extensive service areas throughout the study area in conformance with the population projections used in this EIS. The remaining portions of the study area would be served by on-lot systems not supported by federal funds.

Alternative Six, Full 201 Alternative: This alternative would provide federally funded interceptors to extensive service areas throughout the study area in conformance with the population projections used in the Blount County 201 Plan. The remaining portions of the study area would be served by on-lot systems not supported by federal funds.

The alternatives described above were evaluated in terms of cost, operability, implementability, and environmental impact. The evaluation of the alternatives with respect to these catagories is summerized in Table One of your handout.

Cost: As shown in your handout, there are significant differences among the alternatives with regard to cost. In present worth terms which means averaging the total cost over a twenty year period, the costs range from eight point two million to twenty-four point four millicn dollars. These figures clearly indicate that the provision of on-lot systems is the lowest cost. It is important to note that the provision of the management system adds significantly to the overall cost for on-lot systems alternatives. For service to the entire county, interceptor systems are lower cost than small community systems. However, for a specific community in a rural area surrounded by sparse development, a single small community system could be less costly than a long interceptor line.

Operability: Operability considerations do not completely eliminate any type of system from consideration in this EIS. The greatest potential problems appear to be related to the small community systems alternative. The proper operation and maintenance of thirty-five separate systems would require highly trained staff and would be very complex.

Implementability: New on-lot systems would require permits from the Blount County Health Department or the new management agency before they could be constructed. Surface discharges and land application sites associated with small community systems would require state permits.

The lack of existing water quality or public health problems causes the conventional projects to rank low on the state priority list and severly limits chances for EPA funding. The on-lot systems alternative qualifies as an innovative and alternative project. This increases its chances for EPA grant funds.

The eligibility of the renovations proposed in the on-lot alternative for federal funding would be dependent upon the local determination of need for and establishment of an on-lot management agency. To establish such a management, several new legal authorities would have to be granted.

The management agency would need a permanent funding source for operation. Short term operation and maintenance costs for on-lot systems would likely increase with more regular inspections and enforcement. Reductions in drain field replacement costs mitigate this impact.

Environmental impacts: Studies associated with this EIS have identified some malfunctioning of on-lot systems within the study area. Many of these problems occur only on a seasonal basis and result only in increased soil moisture levels. A few result in surfacing of effluent with accompanying odors and other problems. At this time, however, no significant water quality impacts or associated environmental effects have been seen to result from these failures. No future adverse water quality impacts are projected from the no federal action or on-lot alternatives. The major adverse impacts associated with the interceptor alternative are potential secondary impacts, particularly, in the Townsend area. These include impacts from stormwater runoff to the Little River, development on prime agricultural land and increased demand for community services and facilities. Selection of the small community systems alternative would result in potential adverse impacts to surface waters.

After the systematic evaluation of all alternatives, the use of on-lot systems is selected as the most cost effective and environmentally sound means of wastewater management for Blount County. This approach to wastewater management can be implemented through either the on-lot system alternative, alternative two if the local citizenry desires to establish an on-lot management agency or through the no federal action alternative, alternative one, if a decision is made locally not to establish such an agency.

The on-lot alternative would provide for renovation of existing on-lot systems which are malfunctioning and disposal of wastewater from future development using on-lot disposal systems. At this time, the decision is made to provide federal costsharing only for the renovation of on-lot systems. If at some future point, development in Townsend reached a level where wastewater disposal needs could not be met with well managed on-lot systems, EPA would review the possibility of funding small community land applications or other systems which would provide protection for the

Little River.

EPA regulations stipulate that federal funding for on-lot disposal systems may only be approved if a local on-lot management agency is in place to regulate the design, installation, maintenance, operation of these systems. It would be necessary, therefore, for such an agency to be established in Blount County prior to approval of federal funds for on-lot renovations. On-lot systems could be renovated using a number of different conventional septic tank/soil absorption systems or elevated mound systems. Either approach is considered by EPA to be an innovative and alternative system and, hence, is eligible for federal funding of eighty-five percent of project costs.

It may be appropriate for the responsibl local agencies to extend collection sewer lines to specific areas near existing interceptor lines where population density, cost, and soil conditions dictate. Costs for such lines would be funded by local sources.

MR. HEINEN: Thank you, Mr. Cooper. Before we receive comments from the floor, I would like to remind you to register at the desk if you haven't already done so, so that we have a complete attendance list. Also, if you wish to speak this evening, please indicate it on the registration card. In order that everyone who would like to speak is given an opportunity to do so, you are requested to limit your testimony to approximately five minutes and if you have a written text, we would like for you to submit a copy to the panel to enable us to follow your remarks more closely and also to insure that your remarks are accurately included in the record.

Members of the hearing panel may ask questions of the person presenting oral statements when it is felt necessary to clarify the nature or the substance of the comments being made. However, I would ask that the audience not ask questions of the people who make the comments, nor should questions be asked of the hearing panel.

The reason for this is not to foreclose discussion, but to move ahead with the purpose of the hearing which is to receive comments from you folks.

All statements made here tonight will be responded to in the final Environmental Impact Statement.

Before you make your statement, please, identify yourself by name and if appropriate the group or organization which you represent. Please, make you comments at the microphone made available to insure that your remarks are audible to the audience and the court reporter as well as recorded on our tape.

Mr. McKinney is a member of this panel. Do you wish to make a statement at this time?

MR. MCKINNEY: No, thank you.

MR. HEINEN: We don't have very many that have indicated a desire to speak. I am sure there will be plenty of time here, so, I intend to take them just the way that you have registered here, so, Ms. Gail Harris, would you be our first commentator, please. If you will, step right up to this microphone here, please.

MS. HARRIS: I really don't have that much to say tonight. Mainly, I am making these comments partly because I perceive the EPA in need of some positive reinforcement right now. I mean, you fellows aren't really getting a lot of garlands tossed at you.

MR. HEINEN: Hear anything lately?

MS. HARRIS: In my opinion the Draft

EIS is a culmination of a skilled and thorough assessment of Blount County and its wastewater facilities requirements. The decision by Epa to provide general funding only for on-lot systems that are presently failing is a sound and sensible one, although, my own preference was for the no-federal action alternative. I do not believe that any federal money should go to a county that has no effective growth management plan.

In the absence of land-use planning, funding for the 201 alternative would have resulted in the sewers determining the growth patterns of the county with possible damage to environmentally sensitive areas.

In addition, the county has shown that it is not yet capable of properly constructing or maintaining the present 201 system as the pumping station in Wildwood continues to malfunction periodically.

Given EPA's decision and the fact that Blount County's population will continue to grow, it seems clear that it would benefit the county to immediately take steps to investigate, develop and enforce a growth management plan. Such action would indicate that the county is serious about both economic development and environmental quality for present and future generations.

At the very least and as a beginning, the county should create the management agency that EPA is requiring for funding on-lot systems. To neglect to do so would be to throw away an opportunity for city, county cooperation and planning. Thank you.

MR. HEINEN: Thank you very much. Mr. Robert Freeman, I understand that you might wish --

MR. FREEMAN: I think I would like to say something, but I am still formulating what I would like to say --

MR. HEINEN: Well, why don't we put you on hold for a little while. Don't let me forget you. Mr. Finger, a citizen from Townsend --

MR. FINGER: Hold mine up for a little while.

MR. HEINEN: I don't want to hold it too long. There aren't many of you here.

All right, how about Mr. Andy Jordan, Director of Public Services, Maryville Utility Board. Is that correct?

MR. JORDAN: That is correct, sir. What I have is short and sweet. I hope it is to the point.

The city of Maryville has studied the EIS report and has been deeply involved in its development. We have viewed with keen interest the on-lot system aspect of the study.

As a result of the EIS process, the city has taken a long, hard look at its traditional practice of extending gravity sewers as its only viable means of delivering sanitary service. In this respect, MUB has completed an on-lot feasability study for four major areas -- These are low density areas, within the city limits.

The staff of the city is very encouraged by its findings. Thank you.

MR. HEINEN: Thank you, sir. Mr. Robert Allen representing the Sierra Club.

MR. ALLEN: Thank you, sir.

MR. HEINEN: Would you please spell your last name?

MR. ALLEN: A-L-L-E-N. These comments are submitted on behalf of the Harvey Broome Group, the Tennessee chapter of the Sierra Club, a national environmental organization. The Tennessee chapter has over two thousand members with the local group having over four hundred members, approximately eighty of those live in Blounty County.

Our organization, nationally, holds the motto, not opposition to progress, but opposition to blind progress. It was in that spirit that we became involved in the Citizen Review Committee for the EIS. Our prime concern is the growth inducement impacts in the area surrounding the Great Smokies, especially the Gateway City to the mountains, Townsend, and the water quality impacts on the Little River. Our involvement in this process has been a useful one and has strengthened our belief in active and meaningful citizen participation involving as large a public as possible.

We agree with the finding of the Draft EIS that Alternative Two is the most cost effective and environmentally sound alternative for the county. The recommendation and funding requirement for the on-lot management agency, it whould be noted is in keeping with the recent staff recommendation of the Governor's Safe Growth Team that regional approaches to water supply and wastewater facilities be encouraged in all new state loan and grant programs. This management agency, in fact, may be eligible for a fifty percent grant under these recommendations if implemented.

For more information, I suggest that you contact the Governor's Safe Growth Team in Nashville and also encourage EPA to invite comments from the Governor's Safe Growth Team for the final EIS. Thank you.

MR. HEINEN: Thank you, sir. We will see that we do that. Mr. Fred Metts, Planning Director, Blount County. I see you have indicated that you would like to speak.

MR. METTS: No, I did not. I apparently checked the wrong box. I wanted to be on your mailing list. I did not want to speak.

MR. HEINEN: Got'cha. I just want to make sure everybody has a chance.

MR. METTS: Thank you.

MR. HEINEN: How about Dennis W. Weeder, Professor of Civil Engineering, University of Tennessee.

MR. WEEDER: I would like to address three subjects. First, the quality of the study. It is my opinion that EPA considered the complete range of Technical options available and they were -- They also considered the alternative innovative technology approach. I am encouraged by this and feel that given the inclusion of these options that the scope of this study was quite adequate.

Let me comment also about the process. Iwas a member of the Citizen's Review Committee, was very pleased that EPA fairly evaluated and handled a quite diverse set of opinions and comments from this committee and every time that we would meet, it was apparent to me they had done the research and had evaluated and fully studied those questions.

My third comment relates to the political reality of this recommended alternative which I support. Historically, we have put ourselves in a position in this society that we have assumed that gravity sewers are the ultimate answers. In many ways, that justifies the means because going clear back to ground zero that may mean we do not pay attention to the way we design, install, and manage our on-lot and alternative technology systems which as I indicated is probably self-fulfilling for those who are believers in the ultimate solution of gravity sewers. This however, was also biased, I believe, by the federal and state costsharing programs, sometimes running as high as seventy-five percent.

I think we have to admit that these handout days may be over. We should not fear this change, however, but look on it as a challenge.

The question is; How do you grow without gravity sewers? I believe that becomes the big issue with those who may challenge your solution. What do engineers do if they can't design gravity sewers? Again, a second challenge to your solution.

The third question; What about public health protection without gravity sewers? I think the question needs to be addressed by looking to the fact that man has been on the earth about ten thousand years and we have only had gravity sanitary sewers for seventy-five to one hundred years. So, what we have to be very careful of is that that does not become the ingrained solution for all time and I think we have fallen into that trap.

The answers to these questions, I think, can be positive if we are willing to break our ties to tradition. Gravity sewers have their problems also, high capital cost, infiltration, inflow, producing wastewater, what really isn't wastewater, but it's rainwater, but we end up spending public dollars to treat. The rehabilitation of gravity sewers is only now beginning to haunt our society. There are already on the books, billions of dollars of improvements required to rehabilitate sewers which we put in the ground over the last thirty-five years and we do not know where we are going to get the money to do that rehabilitation.

The challenge then, and I believe that you are presenting a solution here which is a step forward in breaking some of these traditions. The challenge is to identify other solutions which reduce public costs and still protect the public health.

MR. HEINEN: Thank you very much, sir. Mr. Freeman, what do you think?

MR. FREEMAN: I would like to say a few words.

MR. HEINEN: You are all among friends here.

MR. FREEMAN: I am Bob Freeman of the East Tennessee Development District. I think the study, of course, there is a lot of merit to looking at on-lot disposal and I think we have to look at that more and more in the future because of the cost associated with extending sewers. I wouldn't quarrel at all with EPA saying that based on its law, its policy, EPA will not fund this extension or that extension or any extension. I think the danger in this particular study is the possibility that desirable short sewer extensions may be precluded and I am thinking particularly of short extensions with federal funds and I am thinking particularly of the use of community development grant funds to make short extensions into concentrated low income areas near the existing sewer lines or the use of EPA or ARC grants if they continue to be available or other grants that might be available in the future to sewering manufacturing areas, industrial areas, parks close to the existing sewer lines.

I think before you publish this study in final form, you ought to up date the maps. For example, the -- I know the sewers now extend, for example, as far east, as I understand it, of Maryville as Heritage High School. I think it would be unfortunate if those lines were not utilized to their fullest capability or at least as needed.

I think you probably ought to put in this study a map showing the present, existing sewers and a -- or the present existing areas that are actually served by sewers and then draw a line near that that shows the areas within which you would -- while not spending EPA money, you would not object to the use of other federal funds that may become available and may be available now or may become available to make short extensions beyond that area and I am thinking of relatively small areas except perhaps, in a case of major industrial development that might be appropriate to provide traditional sewers and I will put this in writing and send it to you. I think that is all I will say for now.

MR. HEINEN: Thank you, Mr. Freeman. How about it, Mr. Finger?

MR. FINGER: I believe you can count me out this time.

MR. HEINEN: All right, sir. Folks, that is all of the cards that I have here. Now, let me see if I missed anybody. Has anyone here reconsidered and you would like to speak at this time, why, we have come along way to talk at you, so, we would like for you to come ahead, if you are willing. If not, I would like to read a letter here that we did receive from Mr. Wayne Everbach, Trout Unlimited, Great Smoky Mountain's Chapter. We will read it into the record here. It was addressed to Mr. Cooper. "Dear Mr. Cooper: Trout Unlimited submits this response in regard to the Draft EIS concerning wastewater management alternatives under study for Blount County.

We support the preferred alternative which is based on an on-site treatment and disposal technology with a requirement for an on-lot system management agency.

In addition, should growth in the Townsend area require a central treatment facility, we recommend the land-application technology as opposed to discharge into the Little River or sewer interceptors from Maryville.

Thank you for permitting Trout Unlimited to participate on the Citizens Advisory Committee." This will also be included in the records in the final EIS.

Do any members of the panel have any comments or questions you would care to ask or make a statement?

MR. MCKINNEY: No.

MR. COOPER: No.

MR. HOWARD: No.

MR. HEINEN: I would like to ask the court reporter here since I screwed up and didn't do what she asked me to do, did you get all of the names down?

Court reporter: Yes.

MR. HEINEN: I would like to remind you that the public hearing record will remain open until March 4, 1983.

All written comments received will be considered as part of the record and should be forwarded to EPA at the address listed on the handout.

I truly would like to thank each of you for your participation here tonight. The comments you have made this evening and all written comments which we receive during the comment period will be carefully considered and responded to in the final EIS.

This final EIS will consist of the agency's final decision, a summary of the Draft EIS, any pertinent additional information or evaluations developed since the publication of the Draft, revisions to the Draft, comments received and EPA's responses to those comments and the transcript of this hearing.

Those of you who have commented tonight or submitted comments will receive a copy of the final EIS.

Again, thank you for your attendance and participation in the EIS process. I will adjourn this meeting.

Chapter VII

-WRITTEN COMMENTS RECEIVED ON THE DRAFT EIS-

83-0501-B130

etdd east tennessee development district

counties
anderson
blount
campbell
claiborne
cocke
grainger
hamblen
jefferson
knox
loudon
monroe
morgan
roane
scott
sevier
union

cities
alcoa
blaine
caryville
clinton
umberland gap
dandridge
farragut
friendsville
gatlinburg
greenback
harriman
huntsville
jacksboro
jefferson city
jellico
kingston
knoxville
lafollette
lake city
lenior city
loudon
luttrell
madisonville
maryville
maynardville
morristown
new market
new tazewell
newport
norris
oak ridge
oakdale
oliver springs
oneida
parrottsville
philadelphia
pigeon forge
pittman center
rockford
rockwood
rutledge
sevierville
sweetwater
tazewell
tellico plains
townsend
vonore
wartburg
white pine

February 24, 1983

Mr. Robert C. Cooper
Project Officer
NEPA Compliance Section
Environmental Assessment Branch
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

Dear Mr. Cooper:

SUBJECT: Result of Regional Review
Draft Environmental Impact Statement for Proposed Wastewater Facilities in Blount County

The East Tennessee Development District has completed its review of the Draft Environmental Impact Statement for proposed wastewater facilities in Blount County, in its role as a regional clearinghouse to review federally-assisted projects.

This letter also is intended to supplement the remarks made by Robert E. Freeman of the ETDD staff at the public hearing in Blount County on February 22, 1983.

As the regional review coordinator, ETDD has received four letters: City of Maryville, Maryville Housing Authority, City of Friendsville, and a copy of a letter from the City of Friendsville to the Tennessee Department of Public Health. These letters are attached as part of the review. ETDD comments follow on the Friendsville situation.

ETDD has the following comments on the Draft EIS:

(1) There is considerable merit from a cost-effective and water quality standpoint in recommending that certain areas plan to treat wastewater through other than traditional systems.

(2) Because the EIS was initiated so long ago, the maps showing existing wastewater service areas are out-of-date. ETDD recommends that an addendum that shows the actual public wastewater service area as of early 1983 be attached to the EIS.

(3) The other major concern is that the existence of this EIS may cause other federal programs to adopt a position that they should fund no

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post office box 19806 • knoxville, tennessee 37919 • telephone (615) 584-8553

further extensions of wastewater service in Blount County. ETDD understands EPA's position that based on EPA law and policy, EPA should not fund additional interceptors and pump stations at this time due to the lack of current water pollution problems and the requirement of cost effectiveness. However, other federal programs have other criteria. UDAG, ARC, and EDA, for example, generally fund job-oriented development activities. CDBG usually concentrates on service to lower income areas or job related new development. ETDD, therefore, recommends that EPA make clear that relatively short extensions within and beyond the existing service boundary are not precluded from using other federal funds that may be available. ETDD recommends that in conjunction with the map recommended in (2) above, that a line be drawn (in consultation with the three local planning agencies) beyond the existing service area which includes the existing built-up area not sewered immediately around the existing wastewater service area, the new industrial park on State Route 33 and any other nearby densely developed area, school, or other institution within which wastewater extensions that might be funded by federal funds other than EPA would not be questioned by EPA unless other environmental factors such as flood plans or natural areas were present.

(4) ETDD also recommends that EPA specify that Friendsville should not be precluded from use of other federal funds for wastewater installation connected either to the Maryville system by pump or to its own treatment plant.

ETDD or other reviewing agencies may wish to comment further at a later time.

We appreciate the opportunity to work with you in coordinating projects in the region.

Sincerely,

Allen W. Neel
Executive Director

AWN/tg

cc Ms. Saralee Terry, Tennessee State Clearinghouse
Mayor Roy W. Endsley, City of Friendsville
Mr. Rick Russell, Barge, Waggoner, Sumner and Cannon
Mr. Gary H. Hensley, City Manager, City of Maryville
Mr. William R. Judkins, Acting Executive Director, Maryville Housing Authority
Mr. Robert Davis, Blount County Executive
Mr. Fred Metz, Director, Blount County Planning Department
Mr. Bill Dunavant, Blount County Chamber of Commerce
Mr. Bill Hammon, City Planner, City of Alcoa
Mr. Bennett Adams, City Planner, City of Maryville
Mr. Paul Worley, Blount Area Utility Board

CITY OF FRIENDSVILLE
P. O. BOX 56
FRIENDSVILLE TENNESSEE 37737

February 18, 1983

Ms. Trudy Garrett
East Tennessee Development District
P.O. Box 19806
Knoxville, TN 37919

RE: Environmental Impact Statement
Blount County, Tennessee
Wastewater Facilities
US EPA, Region 4

Dear Ms. Garrett:

We have reviewed the Draft Environmental Impact Statement and have found that the discussions and alternative selections do not totally represent the conditions of the Friendsville community. As the narrative states, our only current means of residential wastewater disposal are individual on-lot systems. The local school has the only sewage treatment plant in the area.

It is the strong belief by our residents that a continued reliance on individual on-lot (septic tank-drainfield) systems does not allow us to meet the short term, intermediate, or long term goals of our community. For the new Environmental Impact Statement to properly recognize the conditions and needs of our community, the following items must be considered:

1. Drainfield failures represent a significant and continuing problem in the community. Please note the attached letter wherein we requested certification of our current drainfield problems by the Tennessee Department of Public Health. The soil and topographic features that contribute to this condition will definitely limit growth within our community.

2. We urgently need a number of public housing units to provide for residents in our immediate area. These units cannot be constructed in our community without an adequate public wastewater disposal system. Septic tanks and drainfields are not acceptable.

3. Friendsville is fortunate to be located immediately adjacent to State Highway 321; which has recently been upgraded to a four lane highway from the junction with I-75 all the way to Maryville, Tennessee. The improvements to

this highway, along with the opening of the Foothills Mall in Maryville, has resulted in a tremendous increase in traffic flow. We have also been contacted by individuals interested in locating businesses in our community to take advantage of this new road and the potential customers that are using this road every day. This is probably the greatest opportunity this community has ever had to strengthen and solidify its economic base and thereby allow us to have at least the prospect of a future.

To summarize, we believe that the proper means to treat the sewage from our community may need to be in the form of a community collection and treatment plant system, if all our problems and needs are addressed. This option must be left open to us because of the particular situation our community finds itself in due to our geographic location and soil conditions. The Health Department confirmation of our drainfield problems will be the last question to be resolved before we begin the final push to actually develop a safe and adequate wastewater system in our community.

Sincerely,

Roy W. Endsley
Mayor

cc: Mr. Rick Russell

CITY OF FRIENDSVILLE
P. O. BOX 56
FRIENDSVILLE TENNESSEE 37737

February 18, 1983

James C. Ault, Director
Tennessee Department of Public Health
150 9th Avenue North
T.E.R.R.A. Building
Nashville, Tennessee 37203

Dear Mr. Ault:

On behalf of the Town of Friendsville, Tennessee, I would like to request that a survey be conducted to certify the extend of failure we are experiencing with on-lot wastewater disposal systems in our area. With the opening of the improved four-lane Highway 321 through our community we are experiencing a push to allow new construction. We are and will continue to be faced with solving the problem with failures in existing on-lot disposal systems that result from poor and shallow soils.

To solve these existing problems and provide for the growing needs of our community, we anticipate the construction of a small wastewater collection and treatment system. We plan to seek the help of the state and the E.P.A. in funding our project and will file the appropriate applications after your survey has been completed.

Your assistance and attention to this matter will be greatly appreciated by all. Please contact us for the specific location of the study area and for any other assistance we can provide to help in this effort.

Sincerely,

Roy W. Endsley
Mayor

cc: Mr. Rick Russell

1795

January 27, 1983

Ms. Trudy Garrett
Project Review Coordinator
East Tennessee Development District
P. O. Box 19806
Knoxville, TN 37919

RE: Comments on Draft Environmental Impact Statement for Proposed Wastewater Facilities in Blount County

Dear Ms. Garrett:

As a follow-up to the subject EIS, the City of Maryville is in the process of completing a study of the possibility of creating an on-lot septic system maintenance agency within the City of Maryville.

The study is being conducted by Dr. Dennis Weeter of the University of Tennessee. If you would like a copy of the final draft please advise.

Sincerely,

CITY OF MARYVILLE

Gary H. Hensley
City Manager

/smv

REC ED
JAN 31 1983
EAST TENN. DEVELOPMENT DISTRICT

City of Maryville MARYVILLE, TENNESSEE 37801 mha

MARYVILLE HOUSING AUTHORITY

MARYVILLE, TENNESSEE 37801

Central Office: Municipal Building P. O. Box 428
Housing Office: Parkside 311-CM Louisville Rd.

[redacted]

February 21, 1983

Ms. Trudy Garrett
East Tennessee Development District
P. O. Box 19806
Knoxville, Tennessee 37919

Re: Environmental Impact Statement
Blount County, Tennessee
Wastewater Facilities

Dear Ms. Garrett:

During recent months the Maryville Housing Authority has been exploring the possibility of locating some units of public housing within the City Limits of Friendsville.

The Department of Housing and Urban Development does not contemplate any new units during the next fiscal year, however, I feel very strong that in the 1984-1985 fiscal year we will have the opportunity to build several units in the City of Friendsville.

The Maryville Housing Authority would be very anxious for the City of Friendsville to have a sewage system. The only alternative to eliminate the problem of sewage would be for the Housing Authority to provide our own package treatment plant. This would be a very costly project to undertake plus the cost of maintaining our own package treatment plant would be very costly over the next 30 to 40 years. This could jeopardize the City's efforts for these units due to the total cost.

The Maryville Housing Authority has identified the need for low income housing in the City of Friendsville. Therefore, the Housing Authority is hopeful that the Honorable Mayor Endsley and the City Council are successful in their efforts to obtain a sewage system for their City.

Sincerely,

William R Judkins

William R. Judkins
Acting Executive Director
Maryville Housing Authority

WRJ/bp

Townsend, Tenn 37882
Route 1 Box 288
March 1, 1983

Environmental protection Agency
Robert C. Cooper project Officer.

Dear Mr. Cooper:

I couldn't attend the meeting at the Blount County Court House Feb. 22nd, but I want to get my statements on the record.

My intrest was the sewer line to Townsend. I had said from the start Little River was a clean free flowing stream, and We have laws on the books to Keep it that way. If raw sewer was being dumped or run into the river our Health Department was not doing their job. Also if the septic tanks in this Area were malfunction then they were paid to take Care of that.

We live on Little River in a beautiful little Cove. Which We Call Spring Cove. Our water comes from a spring on the mountains behind us. It has been tested by diffrent health departments, and it's pure Clean water.

We were Very upset When the

.201 sewer prodject was sold to our County Court, especially the one to Townsend along "Little River. We knew what it would do to the road and banks of the river.

Townsend, Tenn. is a beautiful little mountain Hamlet. The majority of the people do not want another Gatlinburg. Some who do have come in and want to git rich quick. As for the people in Maryville and Alcoa and their water suply. Why did they not git the clean water from the river up near the park and they would have had forced gravatation to their plant, cheaper & Cleaner.

The water line to Townsend comes from Alcoa plant & pumped to Townsend with floride added which is posion and Causes Cancer. Which has been proven. Townsend Could have Caught their water from the river up here. No some one made some money on the deal Im sure. Think of the pipe line's ect. They tore up our road along Little River, and the silt and run off Was all one summer.

We the people along Little River own the property Little River flows over. We love our River and we try our best to protect it. It is outsiders who missuse it.

Thank you for your decision. It's what we had said at the court House all the time. The local paper came out with an article and stated the Finger's were the ones who caused the tax payers $400,000 for the study.

Thank you for saving our Little River.

Respectfully,

Mrs. T.V. Finger
(Zelda)

KRESSIN, STIVERS, & ERICKSON
ATTORNEYS AT LAW
SUITE 2000, 708 SOUTH GAY STREET
KNOXVILLE, TENNESSEE 37902

GEOFFREY D. KRESSIN
ROBERT M. STIVERS, JR.
FRANK R. ERICKSON
MIKE NASSIOS

GEOFFREY D. KRESSIN
PATENTS AND TRADEMARKS

AREA CODE 615
525-0900

March 2, 1983

Mr. Robert L. Cooper
Project Officer, NEPA Compliance Section
Environmental Assessment Branch
EPA, Region IV
345 Courtland Street NE
Atlanta, Georgia 30365

Re: Draft EIS - Blount County, Tennessee, Waste Water Facilities, EPA 904/9-82-103, December, 1982.

Dear Mr. Cooper:

It is has come to the attention of the Metropolitan Knoxville Airport Authority, a public corporation operating McGhee Tyson Airport in Blount County, Tennessee, that the above referenced EIS fails to show sewers extending to certain parts of the airport. The airport is within Blount County and outside of the boundaries of either Alcoa or Maryville, Tennessee. The airport is owned and operated by the Metropolitan Knoxville Airport Authority, an agency of the City of Knoxville established pursuant to Tennessee Code Annotated §42-3-101 et seq. The EIS should be corrected to show the existing extension of sewer lines to the airport.

Additionally, the EIS should be clarified to show that EPA is not precluding the use of grant funds or other funds available through federal agencies other than EPA for further extension of sewer lines to airport facilities if such funding is available. It is forseeable that the Federal Aviation Administration may wish to fund extension of sewer lines to its planned improvements on airport property, or that the Authority may seek to use FAA grants for such improvements provided the same are eligible for funding. While EPA may wish to take the position

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that it will contribute to no further extension of sewer lines in Blount County it should be made abundantly clear that such a position would not preclude the use of other federal funds for such purposes.

Your immediate attention to these two items in the Draft EIS is appreciated.

Very truly yours,

FRANK R. ERICKSON
Legal Counsel
Metropolitan Knoxville Airport Authority

FRE/sf

cc: Mr. Timothy L. Campbell
Executive Director

Mr. Robert Davis
Blount County Executive

Mr. Robert Freeman
Assistant Director,
East Tenn. Development District

Roy Wauford, Engineers

TENNESSEE HISTORICAL COMMISSION
701 BROADWAY, NASHVILLE 37203
615/742-6716

January 12, 1983

Mr. Robert C. Cooper
Project Officer, NEPA Compliance Section
Environmental Assessment Branch
EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: EPA's Draft EIS for Blount County, Tennessee, Wastewater Facilities

Dear Mr. Cooper:

Thank you for sending the above document for State Historic Preservation Office (SHPO) review in accordance with Section 106 of the National Historic Preservation Act. We do not anticipate making oral comments at the public hearing, however, our written comments presented below should appear in the Final EIS.

The Draft EIS does not address Section 106 compliance needs for alternatives involving a federal action, e.g. an EPA Step 2 or 3 construction grant. As stated in our 10/16/80 letter to the EIS consultant:

> "In accordance with 36 CFR 800.4 the federal agency or representative is responsible for the identification of historic, architectural, archaeological, or cultural properties in a project impact area that are either on or meet the criteria of eligibility for the National Register of Historic Places....Blount County has not been comprehensively surveyed for historic, architectural, archaeological or cultural properties. Therefore, it is likely that other eligible properties are present, but have not yet been identified.
>
> Construction of 201 facilities is more likely to affect archaeological sites than other kinds of properties. When locations for proposed sewer lines and treatment plants have been chosen, please contact us again to determine if further historic or archaeological identification studies are warranted" (copy attached).

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In response to the Draft EIS the SHPO recommends that a cultural resource identification by a qualified professional should be made a condition of an EPA Step 2/3 grant or any other federal assistance allocated for wastewater facilities construction. The grant recipient should consult with the SHPO to determine exact scope and nature of identification studies warranted.

Your cooperation will be appreciated.

Sincerely,

Herbert L. Harper

Herbert L. Harper,
Executive Director and
Deputy State Historic
Preservation Officer

HLH:jd

Attachment

TENNESSEE DEPARTMENT OF CONSERVATION
TENNESSEE HISTORICAL COMMISSION
4721 TROUSDALE DRIVE, NASHVILLE 37220
615/741-2371

October 16, 1980

Mr. Tom Mather
Claude Terry and Assoc.
1955 Cliff Valley Road
Suite 220
Atlanta, Georgia 30029

Re: Preparation of EIS for proposed 201 Facilities, Blount County, Tennessee

Dear Mr. Mather:

Thank you for contacting us in regard to preparation of the above EIS. The State Historic Preservation Officer and his staff review proposed undertakings regarding actions necessary for the participating federal agency or its designated representative to comply with Section 106 of the National Historic Preservation Act as codified at 36 CFR 800 (44 FR 6068-6081. Jan. 30, 1979).

In accordance with 36 CFR 800.4 the federal agency or representative is responsible for the identification of historic, architectural, archaeological, or cultural properties in a project impact area that are either on or meet the criteria of eligibility for the National Register of Historic Places. Attached is a list of properties on the National Register. Blount County has not been comprehensively surveyed for historic, architectural, archaeological or cultural properties. Therefore, it is likely that other eligible properties are present, but have not yet been identified.

Construction of 201 facilities is more likely to affect archaeological sites than other kinds of properties. When locations for proposed sewer lines and treatment plants have been chosen, please contact us again to determine if further historic or archaeological identification studies are warranted.

Additional information regarding Section 106 compliance is enclosed for your convenience. Please do not hesitate to contact us for assistance. Questions or comments should be directed to Nick Fielder or Suzanne Drone.

Your cooperation will be appreciated.

Sincerely,

ORIGINAL SIGNED BY

Herbert L. Harper,
Executive Director and
State Historic Preservation Officer

HLH:sg

STATE OF TENNESSEE
DEPARTMENT OF PUBLIC HEALTH
EAST TENNESSEE REGIONAL OFFICE
ALEX B. SHIPLEY REGIONAL HEALTH CENTER
1522 CHEROKEE TRAIL
KNOXVILLE, TENNESSEE 37920

March 8, 1983

Mr. Bob Cooper
USEPA, Region IV
345 Courtland Street
Atlanta, GA 30365

Re: Blount County, Tennessee,
Area Draft Environmental Impact Statement

Dear Mr. Cooper:

The Division of Water Management, Tennessee Department of Health and Environment, has reviewed the Draft EIS for Blount County and offers the following comments:

A. Both EPA and participating consultants are to be commended for an accurate and thorough assessment of existing conditions in Blount County.

B. This Division has identified Little River as a natural resource of regional and national importance. EPA's emphasis on protection of Little River as a priority item is appropriate.

C. The selected alternative is consistent with the State's commitment to use available funding to abate existing pollution. At some future date should a municipal facility be required in Townsend, the Innovative and Alternative approach will enhance funding opportunity and provide for protection of Little River.

We appreciate the opportunity to participate in your planning process. If we may further assist, please advise.

Sincerely,

Aubrey D. McKinney
Acting Basin Manager
Knoxville Basin Office
Division of Water Management

ADM:pd 2/6

CC: Jim Ault, CG & L, Nashville
Paul Davis - Permits

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ATLANTA, GA.

1796

LAMAR ALEXANDER
Governor

Stephen H. Norris
Executive Director

TENNESSEE STATE PLANNING OFFICE
1800 JAMES K. POLK STATE OFFICE BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37219

Executive Director
741-1676

State Planning Division
741-1676

Local Planning Division
741-2211

February 15, 1983

Mr. Robert C. Cooper
U.S. EPA, Region IV
Environmental Assessment Branch
345 Courtland Street, N.E.
Altanta, Ga. 30365

RE: CH#TN021583-007 Draft Environmental Statement Blount County, Tennessee Waste Water Facilities.

Dear Mr. Cooper:

In accordance with OMB Circular A-95 and as the designated State Clearinghouse for federal grant programs, we have reviewed your proposal and have assigned this project the State Clearinghouse number indicated.

This proposal has our conditional endorsement. Our evaluation of the submitted material has identified certain areas which we feel need further assessment. This proposal has the endorsement of the State of Tennessee subject to the following conditions:

1. An survey should be conducted in compliance with the National Historic Preservation Act to identify historic, architectural, archaeological, or cultural properties in the project impact area.

If our office, as the State Clearinghouse, can be of further assistance, please do not hesitate to contact me.

Sincerely,

Thomas M Webb

Thomas M. Webb
Manager, Environmental Services

TMW:mcp

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ATLANTA, GA.

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United States
Department of
Agriculture

Soil
Conservation
Service

675 U. S. Courthouse
Nashville, TN 37203

March 1, 1983

Mr. Robert C. Cooper
Project Office, NEPA Compliance Section
Environmental Assessment Branch
EPA, Region IV
345 Courtland St., NE
Atlanta, GA 30365

Dear Mr. Cooper:

My staff has reviewed the Draft Environmental Impact Statement, Blount County, Tennessee, Wastewater Facilities Plan. The preferred alternative, the use of on-lot systems, may be the most cost effective according to the analysis. However, we see a significant impact to prime farmland in Blount County if this alternative is selected.

Less than one-third (1/3) of the soils in the study area are rated as being acceptable for on-site disposal by the State of Tennessee. Prime farmland soils, except for a small acreage subject to flooding, are the same soils recommended by the Tennessee Department of Public Health for on-site disposal systems. The characteristics of prime farmland soils and soils suitable for on-site disposal systems are practically the same. Therefore, a plan that encourages on-site sewage disposal systems in Blount County is a plan to use prime farmland soils.

Granted, not all prime farmland soils are located on farms. Large areas have already been developed. Some small areas of prime farmland are completely surrounded by commercial and residential land and is therefore considered "committed" to other uses. It is our opinion, however, that this plan will put increased pressure on the prime farmland that is still farmed.

We also believe that a failure rate of 15 percent of present systems greatly hinders the selection of the on-lot system alternative. The on-lot system (septic tanks) has failed in all these cases. Most of these lots are small with no room for correction attempts.

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ATLANTA, GA.

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The alternative on-lot systems mentioned are already available for use but implementation is impaired by the homeowners' lack of funds. Also, the mound systems have been tried with poor results in both Tennessee and North Carolina according to the Tennessee Department of Public Health. However, if the Blount County Health Department had a fund to pay most of the costs of alternative systems, and if research was funded on other alternatives, the on-lot alternative would have merit. Finding practical systems that would work on other than prime farmland soils would benefit the whole region.

The Soil Conservation Service has soil survey information and consultive assistance available in Blount County. We will be happy to further clarify our comments and make some site visits if you desire.

Sincerely,

Donald C Bivens

Donald C. Bivens
State Conservationist

cc: Peter Myers, Chief, SCS, Washington, D.C.

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DEPARTMENT OF THE AIR FORCE
REGIONAL CIVIL ENGINEER, EASTERN REGION (HQ AFESC)
526 TITLE BUILDING, 30 PRYOR STREET, S.W.
ATLANTA, GEORGIA 30303

REPLY TO ATTN OF: ROV2

12 January 1983

SUBJECT: Draft Environmental Impact Statement (DEIS), Blount County, Tennessee Wastewater Facilities

TO: U. S. Environmental Protection Agency
Region IV
Attn: Mr. Robert C. Cooper
Project Officer
NEPA Compliance Section
Environmental Assessment Branch
345 Courtland Street, NE
Atlanta, Georgia 30365

1. Development of the subject facilities will not impact Air Force activities in Tennessee.

2. Thank you for the opportunity to review this DEIS. Our point of contact is Mr. Winfred G. Dodson, FTS telephone 242-6821/6776.

Thomas D. Sims

THOMAS D. SIMS
Chief
Environmental Planning Division

160<

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DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1070
NASHVILLE, TENNESSEE 37202

IN REPLY REFER TO
ORNED-P

14 FEB 1983

Mr. Robert Cooper
Environmental Protection Agency
Region IV
Environmental Assessment Branch
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Cooper:

As requested in your January 4, 1983 letter, we have reviewed the Draft Environmental Impact Statement (DEIS) on the Blount County, Tennessee, Wastewater Facilities.

Our review indicates that the "on-lot systems" alternative, the preferred alternative as described in the DEIS, appears to be the most favorable since it would involve the least degree of environmental impact to the aquatic/wetland habitat and associated fish and wildlife. Alternatives 3-7 would require the installation of sewage interceptor lines at the subject location. If these transmission lines are constructed across any water or adjacent wetland of the United States, Department of the Army (DA) approval would be required.

If we can be of further assistance, please contact Ms. Vechere Lampley of my staff at FTS 852-5028.

Sincerely,

W. G. Eastland
E. C. Moore
Chief, Engineering Division
FN

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ATLANTA, GA.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta GA 30333
(404) 452-4095

February 18, 1983

Mr. Robert C. Cooper
Project Officer, NEPA Compliance Section
Environmental Assessment Branch
EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Cooper:

We have completed our review of the Draft Environmental Impact Statement (EIS) for Wastewater Facilities, Blount County, Tennessee. We are responding on behalf of the U.S. Public Health Service.

According to the Environmental Protection Agency's (EPA) analysis of this request for project participation, the stimulation of development which would accompany the construction of sewer lines throughout the county would actually lead to the decrease in water quality in the Little River. The current low ranking of this project on the State priority list supports the fact that there is currently no documented public health or other water quality related problems which would justify immediate construction of the interceptor or small system alternatives. Therefore, we agree that selection of the on-lot treatment alternative is preferable at this time for the project area. The implementation of this alternative, with or without Federal funding, would not supersede the need for future extensions of collector lines from the Maryville and Alcoa systems or the development of a community system for Townsend.

Thank you for the opportunity to review this Draft EIS. We would appreciate receiving a copy of the final document when it becomes available.

Sincerely yours,

Frank S. Lisella, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Services Division
Center for Environmental Health

162<

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EPA-[illegible]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
ATLANTA REGIONAL OFFICE
RICHARD B. RUSSELL FEDERAL BUILDING
75 SPRING STREET, S.W.
ATLANTA, GEORGIA 30303

REGION IV

IN REPLY REFER TO:

February 11, 1983

Mr. Robert C. Cooper
Project Officer
Environmental Assessment Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, GA 30365

Dear Mr. Cooper:

Our Area Office in Tennessee has reviewed the Draft EIS for the Wastewater Facilities in Blount County, Tennessee. The following comments are the result of the review:

1. The statement on page 11 "Federal funding for on-lot disposal systems may only be approved if there is a local on-lot management agency operating," should be clarified or expanded to show if the requirement would apply to all Federal agencies.
2. The EIS should explain how the responsibilities of the local on-lot management agency would differ from those of the Blount County Public Health Office.
3. The timing of the decision by the Blount County officials, whether to establish a local on-lot management agency, appears to have a bearing or effect on the proposed project. Please clarify how this decision will be made and how the decision will affect the project.

We appreciate having the opportunity to review this Draft EIS. If you have any questions concerning these comments, please contact Steve Shields in the Knoxville Area Office (FTS 854-1345).

Sincerely,

Charles N. Straub

Charles N. Straub
Director, Office of Regional
  Community Planning and Development, 4C

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United States Department of the Interior
OFFICE OF ENVIRONMENTAL PROJECT REVIEW
Southeast Region / Suite 1384
Richard B. Russell Federal Building
75 Spring Street, S.W. / Atlanta, Ga. 30303

March 8, 1983

ER-83/63

Mr. Robert C. Cooper
Project Officer
NEPA Compliance Section
Environmental Protection Agency
345 Courtland Street, NE
Atlanta, Georgia 30365

Dear Mr. Cooper:

The Department of the Interior has reviewed the draft environmental impact statement for Wastewater Facilities, Blount County, Tennessee and has the following comments.

The draft EIS on page II-66 states that numerous communities have poor soils and that other communities have a high percentage of failed on-lot systems. Because of this information, we believe the EIS would be improved by including a soils map of the study area which would show the suitability of the soils for on-lot systems.

The nature of the project would suggest no adverse impacts on local mineral resources but the draft fails to address this issue. For completeness, mineral resources should be discussed in Chapter III, Affected Environment, with mention made of the various limestone quarries operating within the county. If no adverse impact on local mineral resources is anticipated, a statement to that regard should be included.

Thank you for the opportunity to comment on this draft EIS.

Sincerely yours,

James H. Lee

James H. Lee
Regional Environmental Officer

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ATLANTA, GA.

January 7, 1983

Blount County, Tennessee - 201 EIS

Chief, Groundwater Section
Water Supply Branch

Robert Howard, Chief
NEPA Compliance Section

The final draft of the Blount County Wastewater EIS adequately addresses the groundwater concerns raised in our memo of August 20, 1982. The groundwater section provides a comprehensive summary of groundwater resources of the study area, as well as, detailing the potential impacts of the alternatives. However, we do recommend that restrictions on the use of septic tank cleaning fluids (erg. TCE) should be included in mitigative measures for on-lot systems.

We commend Bob Cooper and his EIS contractor for a job well done.

Curtis F. Fehn

J. R. WAUFORD & COMPANY

Consulting Engineers

P.O. BOX 488 • 356 SANDERSON ST • (615) 984-9638
ALCOA, TENNESSEE 37701

February 28, 1983

Mr. Robert C. Cooper
Project Officer
NEPA Compliance Section
EPA - Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

RE: Blount County
EIS
JRWCO 1262

Dear Mr. Cooper:

We have completed our review of the Draft Environmental Impact Statement for Blount County, Tennessee and the following comments are offered for your consideration.

1. Chapter 2, Page II-25, first full paragraph, third sentence:

   A recent hydraulic study by TVA concluded that there is sufficient flow in the Little River during the 3-day, 20-year (State of Tennessee Design Criteria) and 1-day minimum low-flow period to meet the existing water demands.

2. Chapter 2, Page II-28, last full paragraph, last sentence:

   The existing interceptors conveying wastewater to the Regional Wastewater Treatment Plant have capacity to transport dry weather peak flow; however, during peak I/I conditions the interceptor becomes surcharged.

3. Chapter 2, Page II-38, Table II-12:

   The average daily, year 2000 treatment plant capacity for Townsend is shown to be 0.036 MGD. This appears low when compared to the 4536 average nightly visitors projected in Table A-1, Page A-7, which equates to 0.45 MGD using 100 gpcd required by the State of Tennessee Design Criteria.

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. . . continued

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108 KRESS BLD. • LAUREL, MISSISSIPPI 39440 • (601) 649-3252

4. Chapter 2, Page II-78, second full paragraph:

The on-lot system management alternative appears well-suited for residents experiencing problems with failing septic tanks and with no public sewers available; however, why should residents not experiencing problems participate in the program?

5. Chapter 2, Page II-81, last paragraph, first sentence:

Under the suburban Maryville/Alcoa Alternative, Alcoa Utilities Board would probably assume responsibility for operation and maintenance of sewers constructed north of the airport.

6. Chapter 3, Page III-43, last full paragraph, second sentence:

The 201 Plan proposed the use of force mains vs. gravity interceptors to mitigate the impact on land use. Specifically, the wastewater from Townsend was to be conveyed via force mains which have a limited capacity.

7. Chapter IV, Pages IV-6 and IV-7:

Assuming the on-lot management agency is as described in the first full paragraph on Page IV-6 where the homeowner pays for regular O & M, renovation, replacement, or maintenance resulting from management agency-authorized inspections, the only reason for the agency would be to obtain the initial Federal funds. Under this option $530,000 would be expended annually to receive $4,000,000 in grant funds to upgrade about 1,700 septic tanks.

The focus of the EIS as stated on Page I-1 ". . . is on wastewater facilities proposed in the 201 Plan for Phase II funding." Blount County never considered any projects under Phase II except for sewers to Townsend. Estimated cost of this project was $3,500,000 which, if amortized over a 20-year period at 10 percent interest, would result in an annual debt service of $411,000.

The question is will the EIS prevent Blount County or Townsend from applying for other Federal grants or from constructing the Townsend sewer system using local funds?

. . . continued

8. Chapter IV, Page IV-13, first and second paragraphs:

The second sentence of the first paragraph indicates the Townsend/Tuckaleechee Cove area has the lowest rate of observed failure. This is reasonable when this area has only 1.93 persons per household, the second lowest rate in the County, and 0.17 people per acre. In the next paragraph, the statement is made that Townsend is experiencing growth and development at a faster rate than in most other parts of the County. We believe that water quality problems will result from this growth and development and steps should be taken now to prevent the problems from occurring. The EIS makes provisions for a small community system in Townsend should problems occur; therefore, the on-lot management system does not address how to keep problems from occurring in Townsend. Why develop an on-lot system and let the sole source of water supply for Blount County become polluted?

9. Chapter V, Page V-1, third paragraph:

Several elected and appointed local governmental officials expressed their displeasure with the selected alternative during the local governmental workshop meeting.

10. Chapter V, Page V-3, first paragraph:

The major issue during the scoping meeting was the expanded study area versus just the Little River Valley above Maryville's raw water intake.

11. Appendix A, Page A-6:

We do not agree with the projections for the seasonal population of Townsend. Factors which will increase the pressure for development in Townsend are:

a. U.S. 321 Connector through Maryville
b. Extension of the Pellisippi Parkway into Blount County
c. Possible National Woodcarvers Museum
d. Four laning of Walland Highway to Heritage High School
e. Completion of Foothills Parkway
f. Improvements to U.S. 321 through Wear's Valley

. . . continued

The seasonal population in Townsend is also dependent upon annual avents such as the Crafts Fair and the Passion Play.

We appreciate the opportunity to review the Draft EIS and would like to receive a copy of the Final EIS.

Very truly yours,

J. R. WAUFORD & COMPANY
CONSULTING ENGINEERS, INC.

Raymond C. Woods, P. E.
Principal

RCW/jb

cc: Honorable Robert J. Davis
Mr. Fred Metz
Mr. Paul Worley
Mr. Anderson W. Jordon
Mr. Mickey J. Bentley

WRITTEN COMMENTS TO EPA
BLOUNT CO. EIS

2/22/82

by

Dennis W. Weeter

I. Quality Study

EPA considered the complete range of technical options available. They also considered alternative/innovative technology.

II. Process Well Handled

As a member of the Review Committee, I was pleased that EPA handled and evaluated all questions and concerns expressed by the Committee.

III. Political Realities

Historically, our society has assumed that gravity sewers were the ultimate answer. This was sometimes biased by Federal/State cost sharing of 75%. However, these "handout" days may be over. We should not fear this change but look on it as a challenge.

How do we grow without gravity sewers? What would engineers design if we don't install gravity sewers? What about public health without gravity sewers? The answers to these questions can be positive if we are willing to break our ties to tradition. Remember, gravity sewers have only been around 75-100 years? They have their problems too, such as high capital cost, infiltration, inflow, rehabilitation. The challenge is to identify other solutions which reduce "public" costs and still protect public health.

ENVIRONMENTAL ASSESSMENT BRANCH
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MAR 03 1983

Chapter VIII

-LIST OF PREPARERS-

CHAPTER VIII

LIST OF PREPARERS

PROJECT PERSONNEL

U. S. ENVIRONMENTAL PROTECTION AGENCY

Robert B. Howard	Chief, NEPA Compliance Section
Gene Raybuck	EPA Project Officer, August 1979 - January 1981
Robert C. Cooper	EPA Project Officer, January 1981 - Present
Robert J. DeRosa	201 Project Engineer

GANNETT FLEMING CORDDRY AND CARPENTER, INC.

Thomas M. Rachford	Senior Project Manager
Anthony G. Neville	Project Manager, August 1979 - January 1982
Stuart L. Miner	Project Manager, February 1982 - Present
David B. Babcock	Engineer
James R. Fuller	Engineer
John W. Jacobs	Soils Scientist
Amy E. Lucas	Environmental Scientist

CLAUDE TERRY AND ASSOCIATES, INC.

Claude E. Terry	President
Robert J. Hunter	Project Manager/Environmental Scientist
Michael Brewer	Environmental Scientist
James C. Hodges	Environmental Scientist
Thomas C. Mather	Environmental Scientist
Louise B. Franklin	Environmental Planner
Steven S. Webb	Archaeologist